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CENSUS OF INDIA
1971

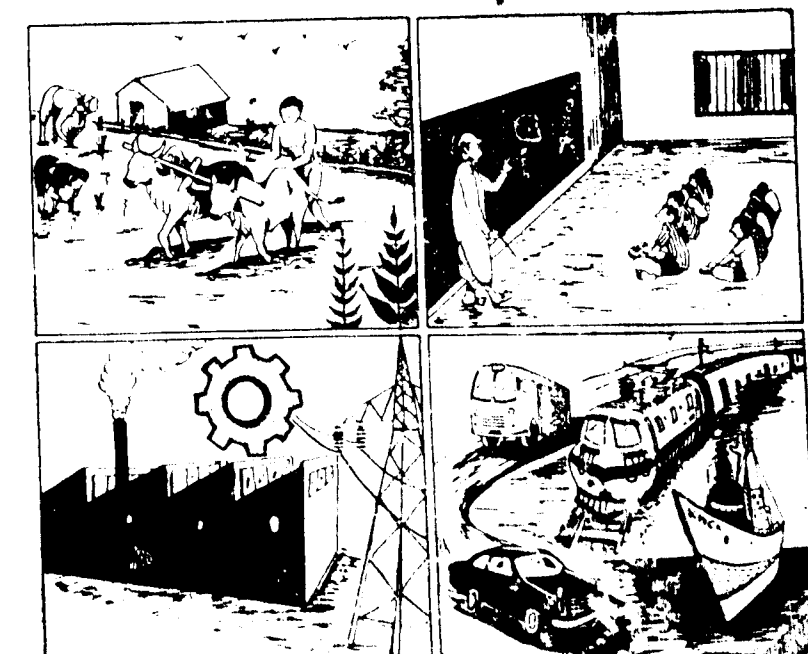
TAMIL NADU

SERIES-19 TAMIL NADU

PART IX

CENSUS ATLAS

K. CHOCKALINGAM
of the Indian Administrative Service
DIRECTOR OF CENSUS OPERATIONS
TAMIL NADU



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CENSUS OF INDIA 1971

SERIES - 19

TAMIL NADU

With the best compliments of:

M. Thangaraju, M.A.

Dy. Director of Census Operations, Tamil Nadu

PART IX

CENSUS ATLAS

K. CHOCKALINGAM

of the Indian Administrative Service
DIRECTOR OF CENSUS OPERATIONS,
Tamil Nadu & Pondicherry

PUBLICATION PROGRAMME
TAMIL NADU

(Series 19 relates to Tamil Nadu only. Under this series, the following publications will be issued)

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ALL INDIA PUBLICATIONS

Volumes similar to those indicated above are being published at the All India level. Apart from these, All India Census Tables on 1% sample basis, as Part II (Special) and a Special Report on Graduates and Technical Personnel as Part VII have been published.

* Already published

@ Present publication

- NOTE : (i) The State maps included in this Atlas are based upon Survey of India map with the permission of the Surveyor - General of India.
- (ii) The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.
- (iii) Boundaries are correct upto 1971.

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FOREWORD

It was in 1961 for the first time in the history of Indian census that a Census of India atlas series was brought out on various census themes as also non-census statistics for India and a number of states and union territories. These atlases received wide recognition. During 1973-74, the Indian Census Centenary Atlas was brought out by the Office of the Registrar General, India. The 1961 atlas was exhibited at the International Geographical Congress (1968) in New Delhi. A folio of the 1961 atlas comprising ten selected maps was distributed among the 1,500 delegates to the congress. The centenary atlas was exhibited at the United Nations world population conference (1974) in Bucharest.

Maps from the tahsil to the national level appear in most 1971 census table volumes, reports and publications. As part of the 1971 census taking, jurisdictional maps (basic census map documents) and urban land use schematic maps were prepared to enrich the district census handbooks, the town directories and other census publications. The jurisdictional maps at taluk/district levels were combined in a volume known as Administrative Atlas for each state with additional demographic information and published for six states. Others are likely to come out in course of time. These are the latest subject maps with reference to the 1971 census. This upholds the tradition of the census office of producing the largest number of latest maps in the country.

The tabulation plan of the 1971 census aimed at presenting information based on various types of census data. The 1971 census of India atlas series projects census data in thematic maps. The 1971 atlas programme has been planned in a way that helps comparability with the 1961 data in areas like growth and density of population, sex, religion and literacy. The atlas series, which forms part IX in the census publication series will provide correlation of census data with non-census statistics and help in the analysis and evaluation of socio-economic problems at different administrative levels.

Planning of census atlases began along with pre-census preparations in 1969-70. A national conference was organised in April, 1970 in the Office of the Registrar General in which scholars like Prof. G. S. Gosal, Prof. V.L.S.P. Rao, Prof. Mansoor Alam, Dr. M. P. Thakore, Dr. L. S. Bhatt and Mr. H. M. Jones participated. It discussed the themes and techniques for the maps to be included in 1971 atlas. This scheme was sent to a large number of universities and institu-

tions and valuable suggestions were received from Prof. O.H.K. Spate, Prof. John E. Brush, Prof. John W. Dickey, Prof. R. M. Prothero and Prof. B. J. Garner. The scheme was then examined at conferences of directors of census operations at Courtallam (1970) and at Pahalgam (1972).

The atlas series has been planned in such a way that a complete demographic profile for different administrative units in the country is available from the maps appearing in the atlases of states and union territories and in the national volume. Generally, atlases of states and union territories include eight maps which give the geographical personality of the region, followed by population, sex and age, urbanisation, migration, agriculture, census industrial categories, electricity, transport and communications, trade and commerce and services. There are also maps devoted to scheduled castes and tribes, religion, education, housing and health.

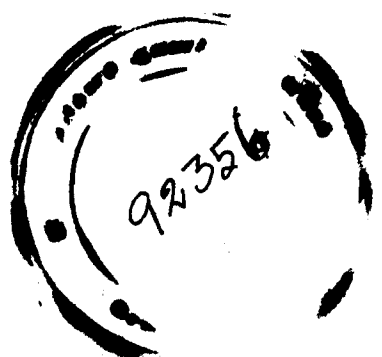
There has been a slight deviation in the All-India volume to reduce the bulk of the atlas by combining themes on the maps. Certain insets are added to provide more information on the subject. Diagrams, graphs and tables based on quantitative measurements of themes help in interpretations of each plate.

In the present All-India atlas, 80 plates are included in four sections. Eleven plates show administrative boundaries and physical aspects. In the section on demographic structure and trends, 35 plates cover distribution of population, density and growth, sex and age and urbanisation. The economic aspects based on census industrial categories are shown in 13 plates. The Socio-cultural aspects accounting for 20 plates relate to scheduled castes and tribes, religion and education. A plate on the physio-geographical regions of India has been included to enable the users to co-ordinate variables in terms of such regions.

This atlas programme has been executed under the direction of Dr. B. K. Roy, Assistant Registrar General (Map). When Dr. Roy went on an U.N. assignment for two years, the work was carried on by the Map Division in Delhi under the supervision of Dr. R. R. Tripathi, now Map Officer. I congratulate all the members of Map Division in our Delhi office and the members of map units in the offices of directors of census operations of map units in the office of directors of census operations of states/union territories on their excellent teamwork and their dedication which contributed to the success of this venture.

NEW DELHI :
Gandhi Jayanti,
2nd October, 1977

R. B. CHARI,
Registrar General, India,
Ex-Officio Census Commissioner, India.



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PREFACE

Census Atlas series a novel addition to 1961 census publications will continue to be published for the successive censuses. The Atlas volume has in general maps and write ups depicting mainly cultural aspects, socio economic factors and geographical conditions of the concerned State/Union Territory. The pattern adopted for All India Atlas Series is the same but with slight deviation.

In this volume, as many as 130 maps are included, of which, 28 maps on industrial structure, 22 maps on sex and age structure, 18 maps on education 9 maps in each on urbanisation, migration and agriculture, 6 maps on transport and communication, 5 maps on distribution, density and growth character, 4 maps in each on physiography and castes tribes and few maps on orientation, service, Trade and commerce and religion. Besides, suitable bar diagrams with analytical notes for each map are also given for quicker understanding of the main maps.

Though most of the data used for the preparation of this Atlas is mainly from my office records of 1971

census, still I could not have completed the job of bringing out of this valuable publication without the co-operation of various departments of State Government and Survey of India. I therefore thank them for their kind co-operation in this regard. The credit for marvelous mapping goes to a team of officials in the Cartography Section of my office. A list of officials associated with this volume is given below and I thank them for their excellent work. My thanks are also due to my colleagues S/Shri T. V. Srinivasan and N. Rama Rao, Dy. Directors, M. Panchapakesan, Assistant Director and R. Narayanan, Investigator, who helped me in finalising the maps and analytical notes for this volume.

I am grateful to Shri A. Chandrasekar, Registrar-General, India, his Successors Sri R. B. Chari and Shri P. Padmanabha, who inspired me in bringing out this publication. I am very much thankful to Dr. B. K. Roy, Asst. Registrar-General, India (Map) and Dr. R. R. Tripathi, Map Officer in the Registrar General's office, who extended the required technical guidance every now and then and helped my Cartography Section in finalising this volume.

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1. ORIENTATION

MAP 1

POSITION OF TAMIL NADU IN INDIA

This map shows the location of Tamil Nadu on the map of India. Tamil Nadu lies between 8° 5' and 13° 35' of northern latitude, and 76° 15' and 80° 20' of eastern longitude. It is situated at the southern extremity of the Indian sub-continent and is bounded on the north by Mysore (now Karnataka) and Andhra Pradesh, on the east by the Bay of Bengal, on the south by the Indian Ocean and on the west by Kerala.

the state ranks eleventh in India, its area constituting 3.96 per cent of the total area of the country. In population the state ranks seventh with 7.52 per cent of India's population. The population of Tamil Nadu as on 1st April, 1971 is 41,199,168 as against the population of 548,159,652 of India. This population is spread over 15,735 villages and 439 towns.

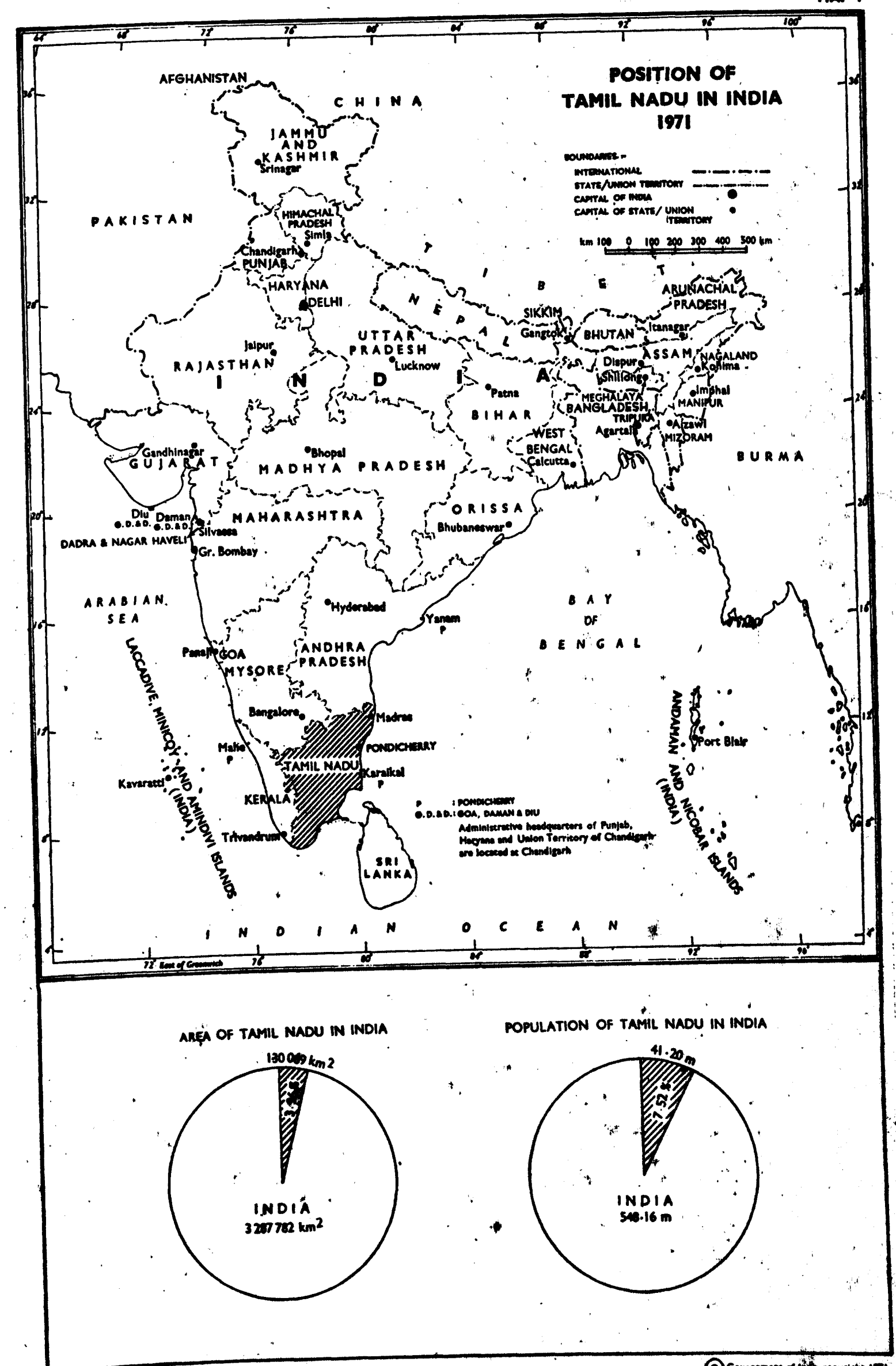
Data on the area and population of the States/ Union Territories as at 1971 census are presented below :

The state has an area of 130,069 km². In area

Unit	Area in km ²	Rank in area	Population (1971)	Rank in Population
1	2	3	4	5
INDIA	3,287,872	—	548,159,652	—
States				
1. Andhra Pradesh	276,814	5	43,502,708	5
2. Assam*	99,610	12	14,957,542	13
3. Bihar	173,876	9	56,353,369	2
4. Gujarat	195,984	7	26,697,475	9
5. Haryana	44,222	17	10,036,808	15
6. Himachal Pradesh	55,673	15	3,460,434	18
7. Jammu & Kashmir	222,236	6	4,616,632	16
8. Kerala	38,864	18	21,347,375	12
9. Madhya Pradesh	442,841	1	41,654,119	6
10. Maharashtra	307,762	3	50,412,235	3
11. Manipur	22,356	20	1,072,753	20
12. Meghalaya	22,489	19	1,011,699	21
13. Mysore	191,773	8	29,299,014	8
14. Nagaland	16,527	21	516,449	23
15. Orissa	155,782	10	21,944,615	11
16. Punjab	50,362	16	13,551,060	14
17. Rajasthan	342,214	2	25,765,806	10
18. Sikkim	7,299	24	209,843	27
19. Tamil Nadu	130,069	11	41,199,168	7
20. Tripura	10,477	22	1,556,342	19
21. Uttar Pradesh	294,413	4	88,341,144	1
22. West Bengal	87,853	13	44,312,011	4
Union Territories				
1. Andaman & Nicobar Islands	8,293	23	115,133	28
2. Arunachal Pradesh	83,578	14	467,511	25
3. Chandigarh	114	29	257,251	26
4. Dadra and Nagar Haveli	491	27	74,170	29
5. Delhi	1,485	26	4,065,698	17
6. Goa, Daman & Diu	3,813	25	857,771	22
7. Laccadive, Minicoy and Amindivi Islands	32	30	31,810	30
8. Pondicherry	480	28	471,707	24

*Includes Mizo district now constituted as the Union Territory of Mizoram.

Two circles depicting the area and population of India and the share of Tamil Nadu in the same are also shown below the main map.



Based upon Survey of India map with the permission of the Surveyor General of India.
The boundary of Phekmap shown on this map is as interpreted from the North-Eastern Area (Reorganisation) Act, 1971, but has yet to be verified.
The territorial waters of India extend into the sea to a distance of twelve nautical miles, measured from the appropriate base line.

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MAP 2

TAMIL NADU—ADMINISTRATIVE DIVISIONS 1971

This map shows the division of the state into districts and taluks, their boundaries and headquarters as they were for 1971 Census.

Tamil Nadu is divided into fourteen districts. Dharmapuri district which was formed by bifurcating Salem district during the decade 1961-71 is an additional district in 1971 Census. Madras district is coterminous with the territory administered by the Municipal Corporation of Madras. The rest of the districts have been divided into 116 taluks.

The district headquarters for Ramanathapuram continues to be at Madurai City in Madurai district. This is the only instance where the district headquarters lies outside the district. Compared to 1961, the two new district headquarters are Dharmapuri and Kanchipuram. Dharmapuri became the district headquarters when the district of the same name was created in 1965. The headquarters of Chengalpattu district which was Madras City during 1961 has been shifted to Kanchipuram which is within Chengalpattu district itself.

District names differ from those of their headquarters in the case of Chengalpattu, North Arcot, South Arcot, Nilgiris, Ramanathapuram and Kanniyakumari.

The names of taluk headquarters are also indicated in the map. In most of the cases, the name of the taluk headquarters is the same as the name of the taluk. Wherever the names differ, the taluk name is shown separately within bracket. The following are the cases where the name of the taluk and name of the taluk headquarters are different.

District	Name of Taluk	Taluk headquarter town
1	2	3
North Arcot	Cheyyar	Tiruvattipuram
Coimbatore	Palladam	Tiruppur
Madurai	Madurai North	Madurai
	Madurai South	Madurai
Tiruchirapalli	Udayarpalayam	Jayamkondacholapuram
	Kulathur	Keeranur
Kanniyakumari	Vilavancode	Kuzhithurai
	Kalkulam	Thuckalay
	Thovala	Bhoothapandi
	Agasteeswaram	Nagercoil

An inset map of Madras Standard Urban Area (S.U.A.) as recognised at the 1971 Census is also exhibited here. In the inset map the boundaries of the City of Madras and the four Municipalities of Tiruvattiyur, Alandur, Pallavapuram and Tambaram as also the boundaries of the five taluks of Saidapet, Ponneri, Sriperumbudur, Tiruvallur and Chengalpattu in Chengalpattu district, which form part of Madras SUA, are indicated.

The area and population of the districts and the number of taluks in each district during the 1971 Census are given below :

Unit	Area in km ²	Population 1971	Number of Taluks
1	2	3	4
TAMIL NADU	130,069	41,199,168	116
Madras	128	2,469,449	—
Chengalpattu	7,920	2,907,599	8
North Arcot	12,265	3,755,797	13
South Arcot	10,898	3,617,723	8
Dharmapuri	9,643	1,677,775	6
Salem	8,643	2,992,616	8
Coimbatore	15,673	4,373,178	9
Nilgiris	2,549	494,015	3
Madurai	12,629	3,938,197	12
Tiruchirapalli	14,291	3,848,816	13
Thanjavur	9,735	3,840,732	12
Ramanathapuram	12,578	2,860,207	9
Tirunelveli	11,433	3,200,515	11
Kanniyakumari	1,684	1,222,549	4

The area of the districts vary. There are very small districts like Madras, Kanniyakumari and Nilgiris and big districts like Coimbatore and Tiruchirapalli. To give an idea about the area of the district as compared to the total state's area, square diagrams showing the total area of 130,069 km² of Tamil Nadu and the average district area of 9,291 km² in the state are presented at the bottom of the map.



MAP 2

MAP 3

CHANGES IN ADMINISTRATIVE BOUNDARIES, 1961-71

This map shows the jurisdictional changes in the administrative units that have taken place in the state during the decade 1961-71. The changes in area that have taken place in the different years are distinctly indicated in various hatchings. Major jurisdictional changes like the formation of a new revenue district or taluk are indicated in the map. Smaller transfers of a few villages from one taluk to another are not represented due to limitation of scale of the map.

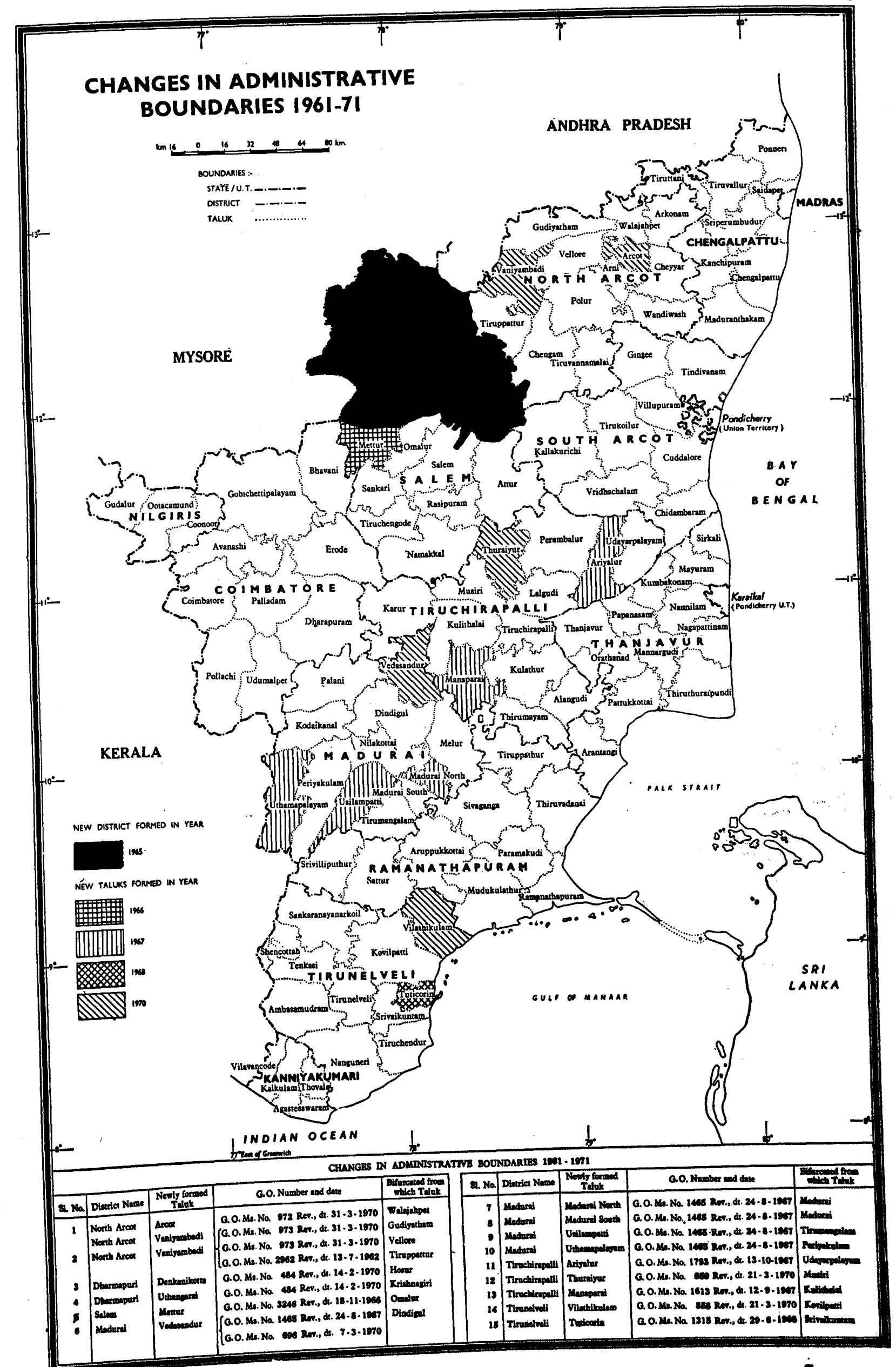
A major change at the district level is the formation of the new district of Dharmapuri in the year 1965. The then existing taluks of Hosur, Krishnagiri, Harur and Dharmapuri of the former Salem district formed the new district of Dharmapuri. With this, the total number of districts of the state has increased to fourteen from thirteen during 1961 Census. Two other smaller changes at district level have also taken place in the last decade. Two villages from Ramanathapuram district (Sivaganga taluk) have been transferred to Madurai district (Madurai South taluk) and two survey fields of a revenue village of Thanjavur district (Orathanad Taluk) have been transferred to Tiruchirapalli district (Alangudi taluk). These two smaller inter-district changes are however not depicted in the map.

A number of additional taluks, (carved out of the existing taluks) have come into being since 1961. Two additional taluks in North Arcot district, two in the newly formed Dharmapuri district, one in the pruned Salem district, four in Madurai district, three in Tiruchirapalli district and two in Tirunelveli district have been newly formed. Besides there are a few minor intra-district changes (among the taluks) which could not be depicted. These are detailed below :

Fourteen villages have been transferred from Arni to Polur Taluk in North Arcot district (1962). One village has been transferred from Vridhachalam to Cuddalore taluk in South Arcot district (1965). In Madurai district, a village of Palani Taluk has been added to Kodaikanal Taluk (1962). In Thanjavur district, 9 revenue villages were transferred from Orathanad

nad taluk to Pattukottai taluk - one in 1962 and 8 more in 1967. In the same district, a village was transferred from Pattukottai taluk to Arantangi taluk (1967). Yercaud in Salem district which was treated as a separate taluk unit in the 1961 Census was treated as part of Salem taluk unit in the 1971 census. Thus, the taluk units of 1961 which were 103 had increased to 116 in 1971 after the formation of 14 additional taluk units. Details of additional taluks which came into being in 1971 are given in the following statements :

District	Taluk from which new taluk was carved	Name of the new taluk	Year in which formed
1	2	3	4
North Arcot	Tirupathur	Vaniyambadi	1970
	Vellore and Gudiyatham		
North Arcot	Wallajahpet	Arcot	1970
Dharmapuri	Hosur	Denkanikotta	1970
Dharmapuri	Krishnagiri	Uthangarai	1970
Salem	Omalur	Mettur	1966
Madurai	Dindigul	Vedasandur	1970
Madurai	Periyakulam	Uthamapalayam	1967
Madurai	Madurai	Madurai South	1967
Madurai	Madurai	Madurai North	1967
Madurai	Thirumangalam	Usilampatti	1967
Tiruchirapalli	Musiri	Thuraiyur	1970
Tiruchirapalli	Kulithalai	Manaparai	1967
Tiruchirapalli	Udayarpalayam	Ariyalur	1967
Tirunelveli	Srivaikuntam	Tuticorin	1968
Tirunelveli	Kovilpatty	Vilathikulam	1970



2. PHYSICAL ASPECTS

MAP 4 RELIEF AND DRAINAGE

This map shows the relief and drainage in Tamil Nadu. The total area of the state is 130,069 km². It has a coastline of about 1,000 kilometres, most of which is washed by the waters of Bay of Bengal. A very small area in the southern region faces the Indian Ocean.

The state is in the form of a rhombus bordered by ramparts of the Ghats – the Eastern and the Western on the north-western and western sides, the Bay of Bengal on the eastern and the Palk Strait and the Gulf of Manaar on the south – eastern side. The longer diagonal of the rhombus stretches from Pulicat lake in the north to Cape Comorin in the south and shorter diagonal from Gudalur in the west to Point Calimere in the east.

The entire area is generally divided into two parts : (1) the eastern coastal plains and (2) the hilly western region. Topographically, there are a few divisions of the state. Parallel to the coast and gradually rising from it is the broad strip of the plain country. It can be sub-divided into coromandal plains comprising the district of Chengalpattu including Madras, North Arcot and South Arcot, the alluvial plains of the Cauvery delta extending over Thanjavur and parts of Tiruchirappalli districts and the dry southern plains of Madurai, Ramanathapuram and Tirunelveli districts. It extends a little beyond the Western Ghats in Kanniyakumari district. The other districts of Coimbatore, Salem, Dharmapuri, Nilgiris and parts of Madurai fall under the hilly western region.

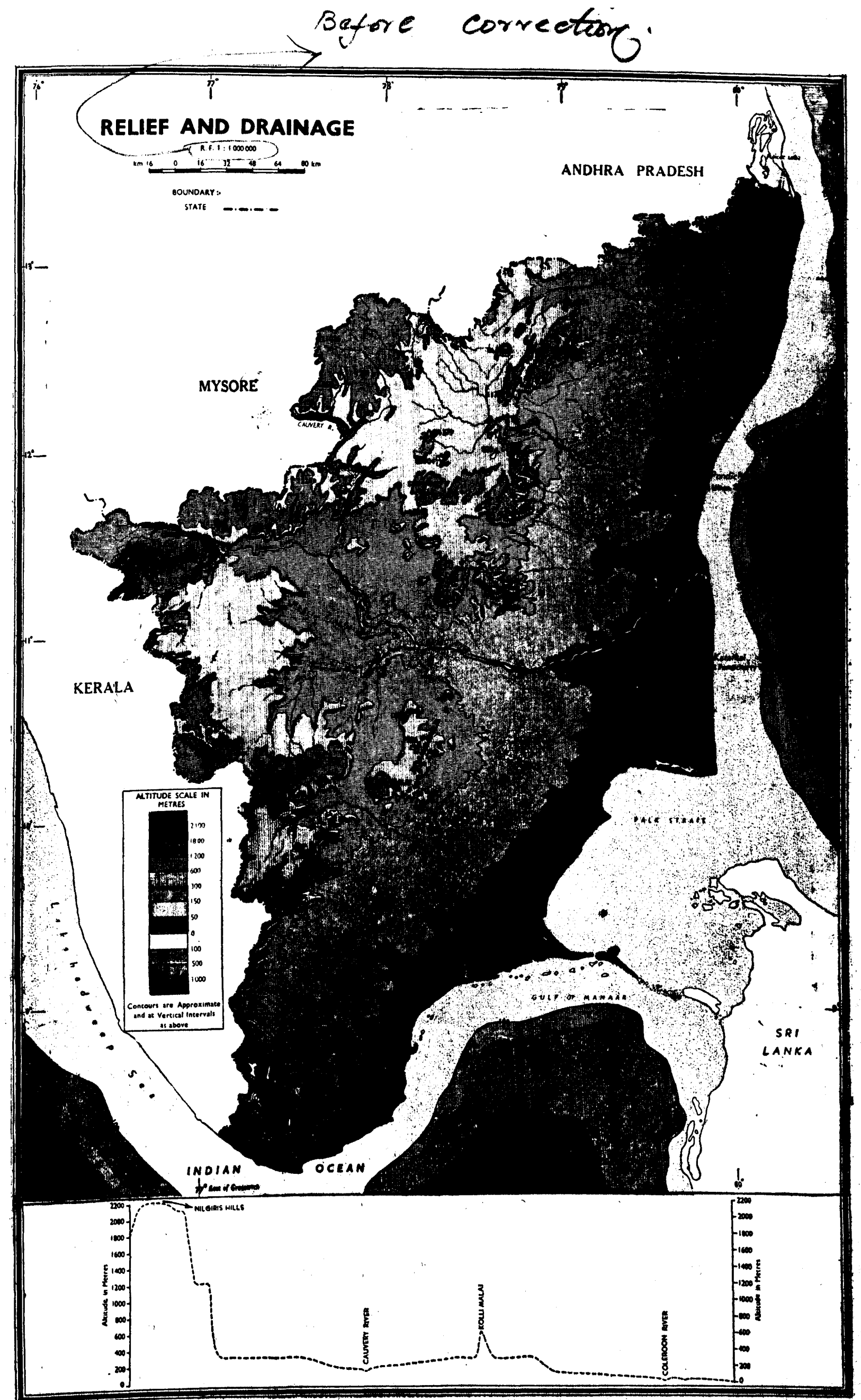
The Eastern Ghats enter Tamil Nadu from Andhra Pradesh in the North and cut across the state. The region is bounded in the north by the crest of the Cardamom hills and in the west by the slopes of the plateau. Along the whole length of the western part, at a distance varying from 50 to 150 kilometres from the Arabian sea and in the range of the Western Ghats, the rugged land mass rises. The Eastern and the Western Ghats intersect and at the junction is the high plateau of Nilgiris. The Blue Mountain or the Nilgiris – the most picturesque mountain of South India – rises abruptly to over 2,000 metres ; two highest peaks are Doddabetta (2,637

metres) and Makurti (2,554 metres). The Palghat gap averaging about 25 kilometres in width is the only break in the great mountain wall of the Western Ghats. The ghats on either side of this gap attain their maximum height in the hill groups of the Nilgiris and the Anaimalais, the lofty Palnis being an off-shoot of the latter. Another less important off-shoot of the Ghats is found in the Varushanad and Andipatti ranges in the south. The other prominent hill groups comprise the Javadis, the Shevaroyes, the Kalrayans and the Pachamalais which form a chain of the low flat-topped hills.

As the slope is from west to east, most of the rivers run eastwards from the Western Ghats, and are rain-fed. The Cauvery Valley stretches from west to east across the land, separating the northern and southern hill groups. The Cauvery is the most important river of the state. The head of the Cauvery delta is just below the island of Srirangam, from where the largest distributary, namely the Coleroon branches off. From the head to the mouth of all its distributaries, the delta covers about 8,000 km² and with its tributaries, the Bhavani and Amaravathi, it forms the most important canal irrigation system in the state. The other important rivers of the state are the Cauvery, Ponnaiyar, Palar, Vaigai and Tambaraparani and these are all indicated in the map. The Valleys are all broad and shallow and their curve of erosion is almost regular.

Typical coral reefs on the east coast occur at about three metres above the sea level in the Pamban island at the head of the Gulf of Manaar. Along the coast, there is a narrow belt of sand dunes which rise to about 10 metres on the Tuticorin coast. Further south in Tirunelveli district, red sand hills locally known as 'teris' rise to over 50 metres behind the sands. The rest of the plains are mainly alluvial, formed by the fast-flowing rivers, of which Cauvery in the north and Tambaraparani in the south deserve mention. These rivers have wide deltaic formations at their mouths.

A cross section of the terrain, as at the central region, is presented below the main map which brings out the relief pattern of the area.



MAP 5

NORMAL MONTHLY AND ANNUAL RAINFALL

This map shows the average annual rainfall pattern of the state and reveals variations of precipitation in the different regions. The annual average rainfall (based on 50 years of rainfall during 1901-1950) are plotted by isohyetal lines of different values as shown on the legend of the map. Rainfall data given in the 'Memoirs of the India Meteorological Department', Volume XXXI Part III were used for this map.

Rainfall in Tamil Nadu is determined by the approaching south-west monsoon (mid-June to mid-October) and the retreating north-east monsoon (mid-October to mid-December). The districts of Chengalpattu, South Arcot, Thanjavur, Madurai, Ramanathapuram and Tirunelveli depend mainly on the north-east monsoon for rains. The districts of North Arcot, Dharmapuri, Salem, Coimbatore and Tiruchirappalli in the central region depend on both the south-west and north-east monsoons. Nilgiris district in the western portion of the state depends on south-west monsoon and has a high rainfall of above 1,500 mm. The major part of the state being a plateau and falling in the rain-shadow region, during the country's normal rainy season from May to September, no part of Tamil Nadu receives more than 500 mm. of rain. The Nilgiris and other mountainous regions account for the maximum rain, most of it due to the South-west monsoon. Kanniyakumari district receives relatively high rainfall during the two monsoon seasons as well as during summer. Of the remaining areas, the coromandal coast gets good rainfall.

It may be observed from the map that the two higher ranges of rainfall, viz., 1,500-3,000 mm. and above 3,000 mm. are found mostly in the western parts, viz., Nilgiris district and portions of Coimbatore, Madurai and Kanniyakumari districts. The coromandal area extending from Madras and Chengalpattu districts in the North and covering mostly South Arcot and Thanjavur districts and eastern parts of North Arcot and Tiruchirappalli district falls under the reasonably good rainfall range of 1,000-1,500 mm. Western parts of Kanniyakumari as also Tirunelveli district fall in this rainfall range. A wider contiguous region of the state running from North Arcot, Dharmapuri and Salem districts in the north extending to parts of Tiruchirappalli,

Madurai and Ramanathapuram districts in the south fall in the Rainfall region of 800-1,000 mm. Rainfall is lower as we move westward from the coromandal side as also along the coastal plain, Coimbatore and the southern districts of Ramanathapuram and Tirunelveli having the lowest rainfall.

In many parts of the state, the average rainfall is very low. The normal precipitation ranges between 500 to 1,000 mm. per year in approximately 75% of the area of the state thus resulting in semi-arid conditions. The total rainfall in the districts of North Arcot, South Arcot, Chengalpattu and Thanjavur is higher than in the remaining districts except Nilgiris and Kanniyakumari. Nilgiris and Kanniyakumari districts receive a much higher rainfall and a much better distribution than other districts of the state. The average annual rainfall in the state is 1008.1 mm. with an average annual 53.5 rainy days. (A rainy day is a day on which 2.5 millimetres or more of rain is recorded.)

The year can be divided into the following rain periods.

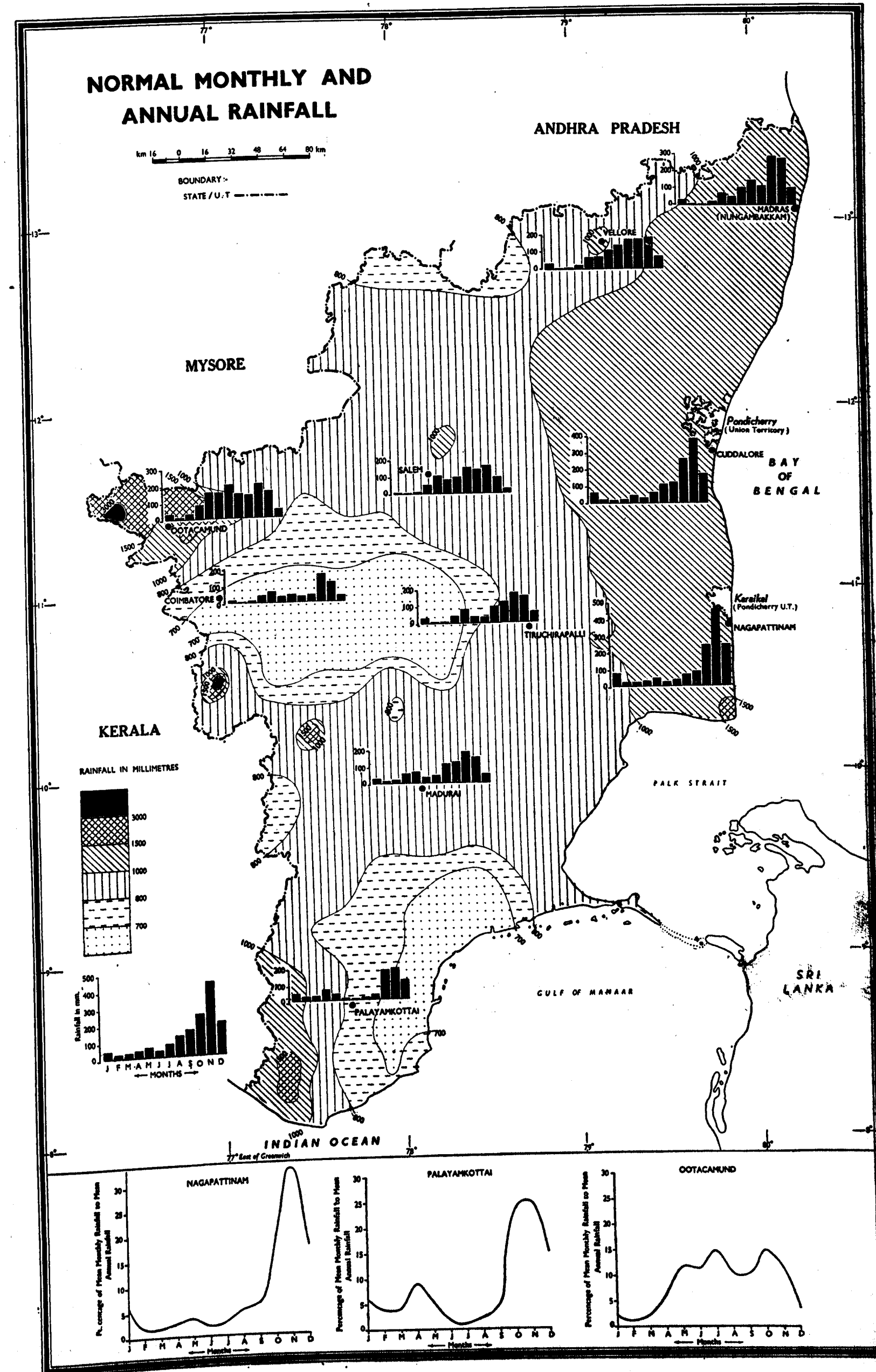
- (1) Hot dry period - mid-February to the end of March.
- (2) Period of hot weather showers - beginning of April to mid-June.
- (3) Transition to the south-west monsoon rains - second half of June.
- (4) Period of south-west monsoon rains - beginning of July to mid-October.
- (5) Rainy period of the retreating monsoon - mid-October to mid-December.
- (6) Cold transition period between the rainy period and the dry period - mid-December to mid-January.
- (7) Cold dry period - mid-January to mid-February.

Data on the monthly average rainfall in millimetres and the percentage of monthly average rainfall to the annual rainfall for the three stations of Nagapattinam, Palayamcottai and Ootacamund located respectively in the eastern, southern and western parts of the state are given below :

Month	Nagapattinam		Palayamcottai		Ootacamund	
	Average monthly rainfall (in mm)	Percentage of monthly rainfall	Average monthly rainfall (in mm)	Percentage of monthly rainfall	Average monthly rainfall (in mm)	Percentage of monthly rainfall
1	2	3	4	5	6	7
January	82.8	6.06	45.0	6.06	35.1	2.55
February	24.9	1.82	28.5	3.84	12.9	0.94
March	24.1	1.76	30.0	4.04	32.5	2.36
April	32.8	2.40	66.5	8.96	85.6	6.22
May	49.0	3.59	39.4	5.31	158.7	11.53
June	26.7	1.95	10.2	1.37	156.0	11.34
July	39.1	2.86	7.9	1.06	201.2	14.62
August	69.3	5.07	16.5	2.22	147.1	10.69
September	84.1	6.15	29.0	3.90	138.7	10.08
October	241.8	17.69	174.0	23.43	202.2	14.69
November	450.3	32.94	183.1	24.66	157.7	11.46
December	242.1	17.71	112.5	15.15	48.5	3.52
Year	1,367.0	100.00	742.6	100.00	1,376.2	100.00

Line graphs to distinguish the varying rainfall in the different months are also presented for the above

given three rain-gauge stations, below the main map.



MAP 6

NORMAL MONTHLY AND ANNUAL TEMPERATURE

This map shows the temperature pattern in the different regions of the state. The mean annual temperature (in centigrades) of all the meteorological stations in Tamil Nadu has been plotted on the map by the isotherms to indicate high to low temperatures. Data for the map have been compiled from the Regional Meteorological Centre at Madras. Four temperature gradations are portrayed in the map.

It may be observed from the map that the major part of the state falls in the high temperature range of 25° centigrade and above. Apart from all the coastal districts, the district of North Arcot, major portions of Salem and Tiruchirapalli and some parts of Dharmapuri, Coimbatore and Madurai districts fall under this range. All the districts of the state except Nilgiris in the western region, fall either wholly or partly in this range. Lower temperature zones with less than 25° centigrade as average temperature fall in and near the western hilly regions and in view of their locations at a considerably high levels above the mean sea level, this is understandable.

Parts of Dharmapuri, Salem and Coimbatore districts in the north-western region form a continuous zone in the range of 20-25°C. Another contiguous tract of this range tends to western parts of Madurai, Ramanathapuram and Tirunelveli districts from areas of Coimbatore, Salem as well as Tiruchirapalli districts.

A major part of the mountainous Nilgiris district and portions of Kodaikanal region of Madurai district which are in the Western Ghats have a lower annual temperature of 15°C and below. A few areas around these two regions fall in the temperature range of 15-20°C

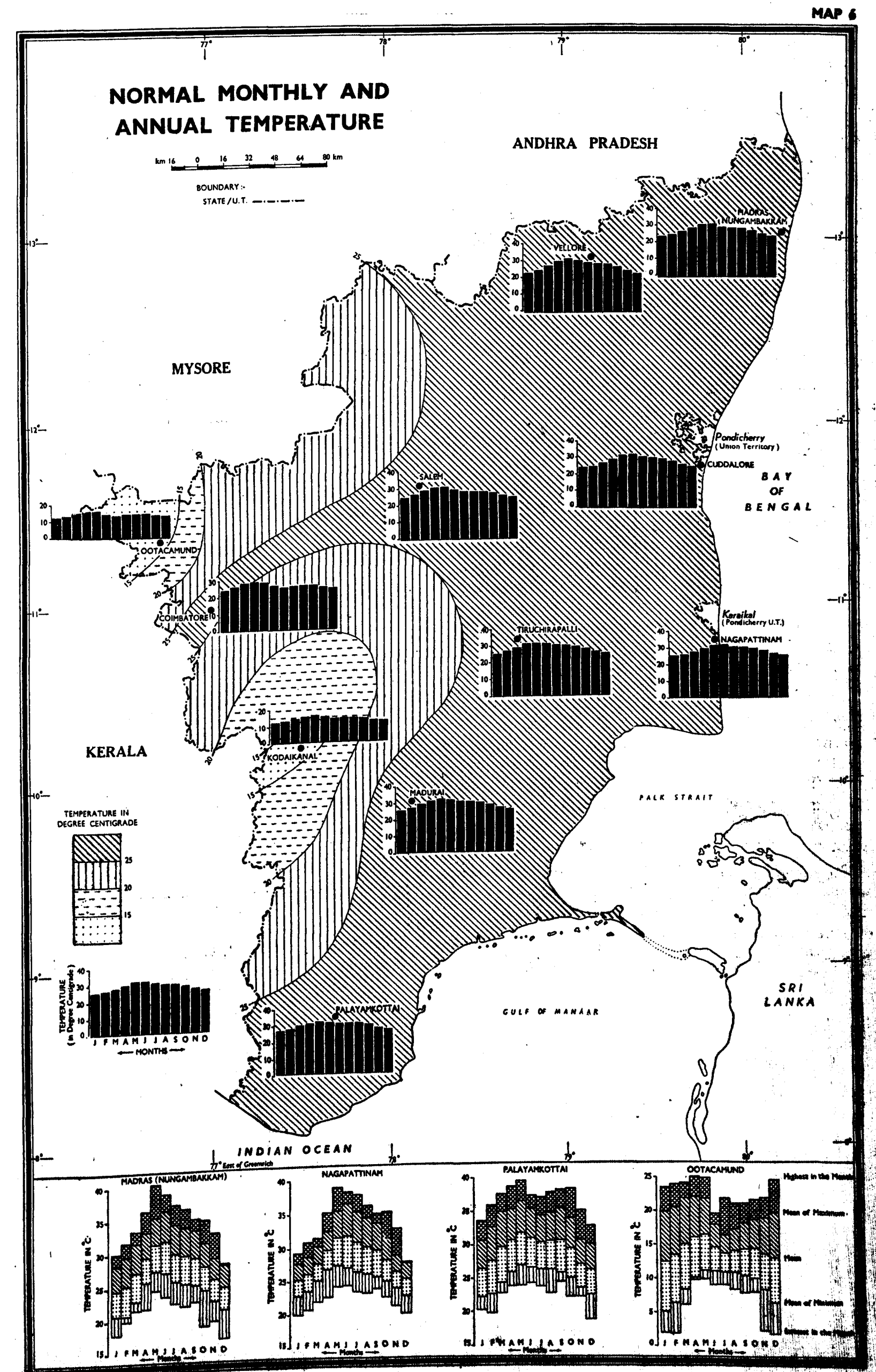
The average temperature for all the 12 months shows certain characteristics of temperature pattern in the state. In Ootacamund and Kodaikanal which are hill stations the average monthly temperature ranges between 12° to 17°C. It may be observed from the diagrams that the average temperature generally shoots up after January, when it is at the lowest. It reaches the peak mostly during May or June and afterward there is a gradual decrease in the temperature every month. Very low temperature for the whole year are generally found during December or January.

Among the stations depicted in the map it may be noticed that Cuddalore (32°C in June) and Vellore (32°C in May) have recorded higher monthly average temperature than the other stations. Coimbatore appears to possess a more equable climate with monthly averages ranging between 24.3°C in December to 29.0°C in April.

Data on the monthly average temperature (in centigrade) are presented below for four stations, Madras (Nungambakkam), Nagapattinam, Palayamcottai and Ootacamund which are located in different regions of the state.

Average temperature (in centigrade) in					
Month		Madras (Nun- gam- bakkam)	Naga- patti- nam	Pala- yam- cottai	Ootaca- mund
(1)		(2)	(3)	(4)	(5)
January	..	24.6	25.3	26.5	12.5
February	..	25.3	26.1	27.7	13.5
March	..	27.3	27.7	29.7	15.2
April	..	29.6	29.7	30.7	16.2
May	..	31.5	31.5	31.8	16.5
June	..	31.9	31.8	31.0	14.6
July	..	30.1	30.8	30.4	13.7
August	..	29.7	30.2	30.6	14.1
September	..	29.4	29.7	30.7	14.3
October	..	28.0	28.2	29.5	14.4
November	..	26.0	26.4	27.2	13.6
December	..	24.8	25.3	26.4	13.0
Year	..	28.1	28.6	29.3	14.3

At the bottom of the main map, bar diagrams for the above four temperature stations are presented with hatchings to show the (i) lowest (ii) highest (iii) mean (iv) mean maximum and (v) mean minimum temperature in centigrade.



MAP 7
SOILS

This map shows the different soils of the state. The soils have been classified under nine broad categories, viz. (1) red loamy (2) red sandy (3) laterite (4) mixed red and black (5) coastal alluvium (6) coastal sands (7) deltaic alluvium (8) alluvium - recent and (9) saline and alkali.

The predominant type of soil of the state is 'red sandy'. This soil is found to occupy vast areas of land in almost all the districts except in Madras and Thanjavur. In the districts of Chengalpattu, South Arcot, Nilgiris and Kanniyakumari, this variety of soil is found in less than half the area while in the other districts, it is widely found. It is significant to note that this variety of soil exists in about 67 per cent of the total land area of the state.

Next to red sandy variety, the important soil in the state is the 'coastal alluvium' covering nearly 12 per cent of the state's area. This type of soil is prominent in the entire coastal area of the state extending from north to south, the major gap in its continuity occurring only in Thanjavur district which area is covered mainly by the 'deltaic alluvium'. The entire Madras district and a major part of Kanniyakumari district are covered by coastal alluvium. Large chunks of coastal lands, roughly 15-35 km², inside from the sea, in the districts of Chengalpattu, South Arcot, Ramanathapuram and Tirunelveli belong to this variety.

'Red loamy' soil is the third important variety in the state and accounts for nearly 10,800 km² or 8.30 per cent of the state's area. This is quite suited for agricultural activities and is predominantly accounted for by the three districts of South Arcot, Tiruchirapalli and Thanjavur, well known for their agricultural bias. Major parts of the western hilly terrain of the Nilgiris district come under this soil which covers most of the coffee-tea plantations besides orchards. Mixed red and black soil suitable for commercial crops is found in three sizable patches of land in the western part mainly in Coimbatore, Madurai and Tirunelveli districts, the total area of such soil being about 6,000 km² or 4.53 per cent of the state's land area.

Deltaic alluvium covering 5,300 km² of the state's area extends over the deltaic spread of the cauvery river

basin, mostly in Thanjavur district, which is considered the granary of the south. This type of soil is very fertile and is used for intensive paddy cultivation from olden times. Deltaic alluvium also occurs in a small area in Alangudi Taluk of Tiruchirapalli district.

Laterite soil is yet another variety found in the state which extends over nearly 2,500 km², of which over two-thirds are located in an oval-shaped region in the middle portion of Chengalpattu district and the rest in the interior of Thanjavur district.

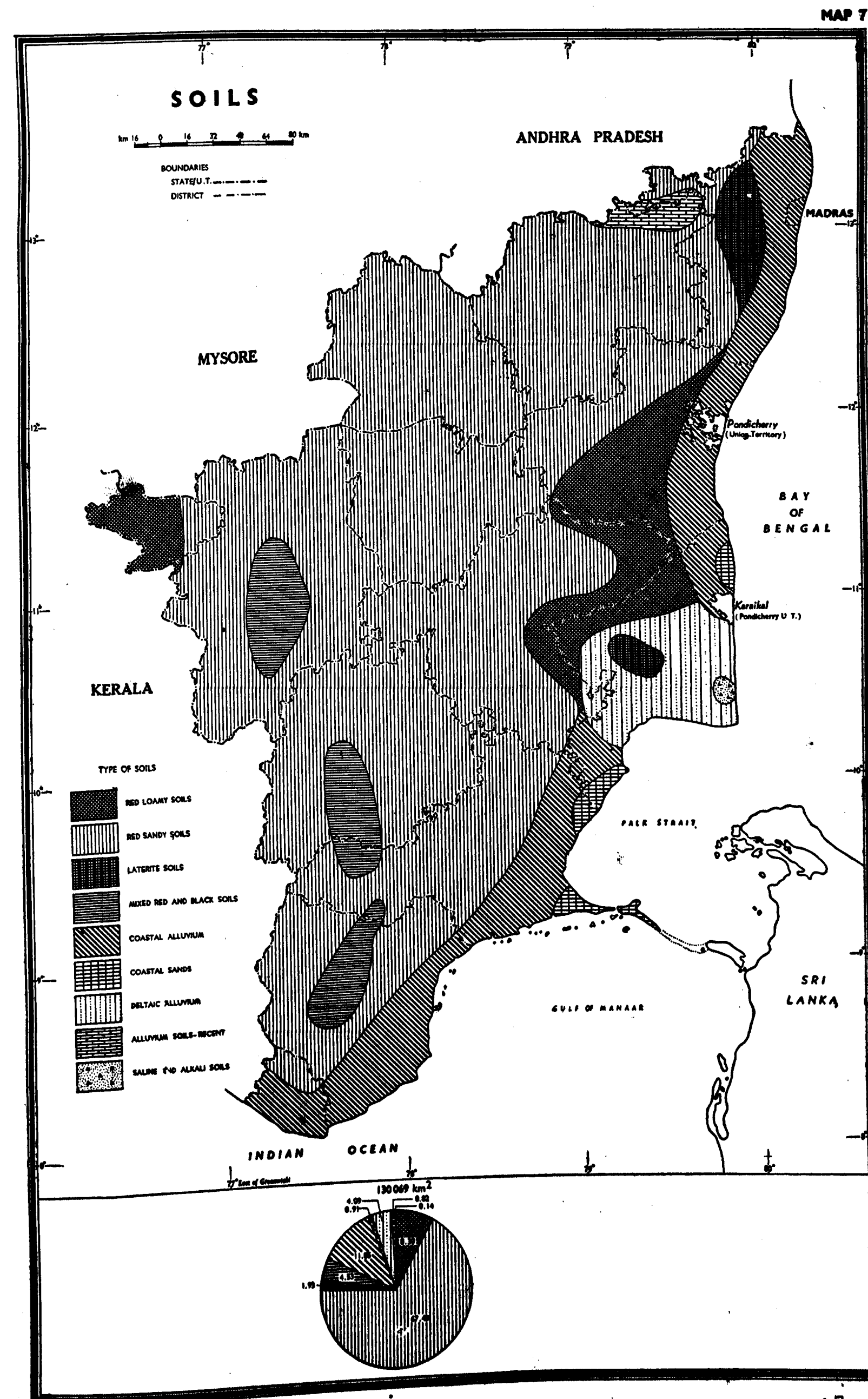
Each of the other three types of soil covers small areas of less than one per cent of the state's areas. The saline and alkali soil which covers the least area of 177 km² is found in a circular patch of land near the coastal belt of the Thiruthuraipundi Taluk of Thanjavur district.

The area covered by the different types of soils and their percentages to total state's area are given in the following statement :

Soil type	Area in km ² *	Percentage of area of total area of state
1	2	3
Red loamy soils	10,792	8.30
Red sandy soils	87,704	67.43
Laterite soils	2,509	1.93
Mixed red and black soils	5,896	4.53
Coastal alluvium	15,417	11.85
Coastal sands	1,182	0.91
Deltaic alluvium	5,326	4.09
Alluvium soils-recent	1,066	0.82
Saline and alkali soils	177	0.14
All types	130,069	100.00

* Represents planimetric measurements on the map made by the Department of Geography, University of Madras.

A pie diagram with proportions of area under various soil varieties along with their percentages is also presented at the bottom of the map.



3. DISTRIBUTION, DENSITY AND GROWTH CHARACTER

MAP 8

DISTRIBUTION OF POPULATION, 1971

This map shows the distribution of rural and urban population in the state according to the last Census. A picture of the degree of concentration of rural and urban population in the different parts of the state would be easily discernible. The rural population is denoted by dots, each dot representing 10,000 persons, and the urban population is depicted by circles of six different sizes according to the population size of the towns as shown on the legend of the map. The physiographic background in the map indicates important rivers and the contour lines in colours. As there is a heavy concentration of urban areas in the surrounding regions of Madras, an inset of Madras and its environs is also shown.

The mountainous regions - the western and eastern ghats and their neighbouring regions are sparsely populated areas. Portions of North Arcot, Dharmapuri, Salem, Coimbatore and Nilgiris covered by higher elevations have comparatively few inhabitants. Similar pattern is also found in certain areas in the southern districts of Madurai, Ramanathapuram, Tirunelveli and Kanniyakumari.

Urban population concentration is found generally around developed areas like cities and other urbanised centres. A very high concentration of urban population is found around Madras. Madras, along with the adjoining 57 towns located in Saidapet and Sriperumbudur taluks of Chengalpattu district, constitute what is termed as the "Madras Urban Agglomeration" with a total population of 3.2 million. The other important urban agglomerations are Coimbatore with 23 contiguous urban constituent units (736,203 population) and Madurai with 15 urban units (711,501 population). The other prominent urban agglomerations are Tiruchirapalli (with 9 urban units and 464,624 persons), Salem (18 units

and 416,440 population). Tirunelveli (11 units and 266,688 population) and Tuticorin (10 units and 181,913 population). Vellore, Erode, Tiruppur, Pollachi, Karai-kudi, Coonoor and Mallasamudram are the other urban agglomerations with five or more constituent contiguous urban units.

The district of Chengalpattu which encircles Madras has 74 urban centres while Coimbatore and Tirunelveli districts have 58 and 52 urban units respectively. The other districts having sizable number of urban units are Salem (43), Madurai (38), Ramanathapuram (34), North Arcot (32), Tiruchirapalli (32) and Thanjavur (32). The districts with fewer urban centres and urban population are Dharmapuri, Kanniyakumari and South Arcot.

The rural population of the state (28.73 million) constitute 69.74 per cent of the total population. Its distribution varies in different parts of the state. There are about three million rural population in each of the districts of North Arcot, South Arcot, Tiruchirapalli and Thanjavur where agriculture is the mainstay of the working population. The other districts with over two millions of rural population are Salem, Coimbatore, Madurai, Ramanathapuram and Tirunelveli. Agriculture is a prominent rural avocation in these districts too.

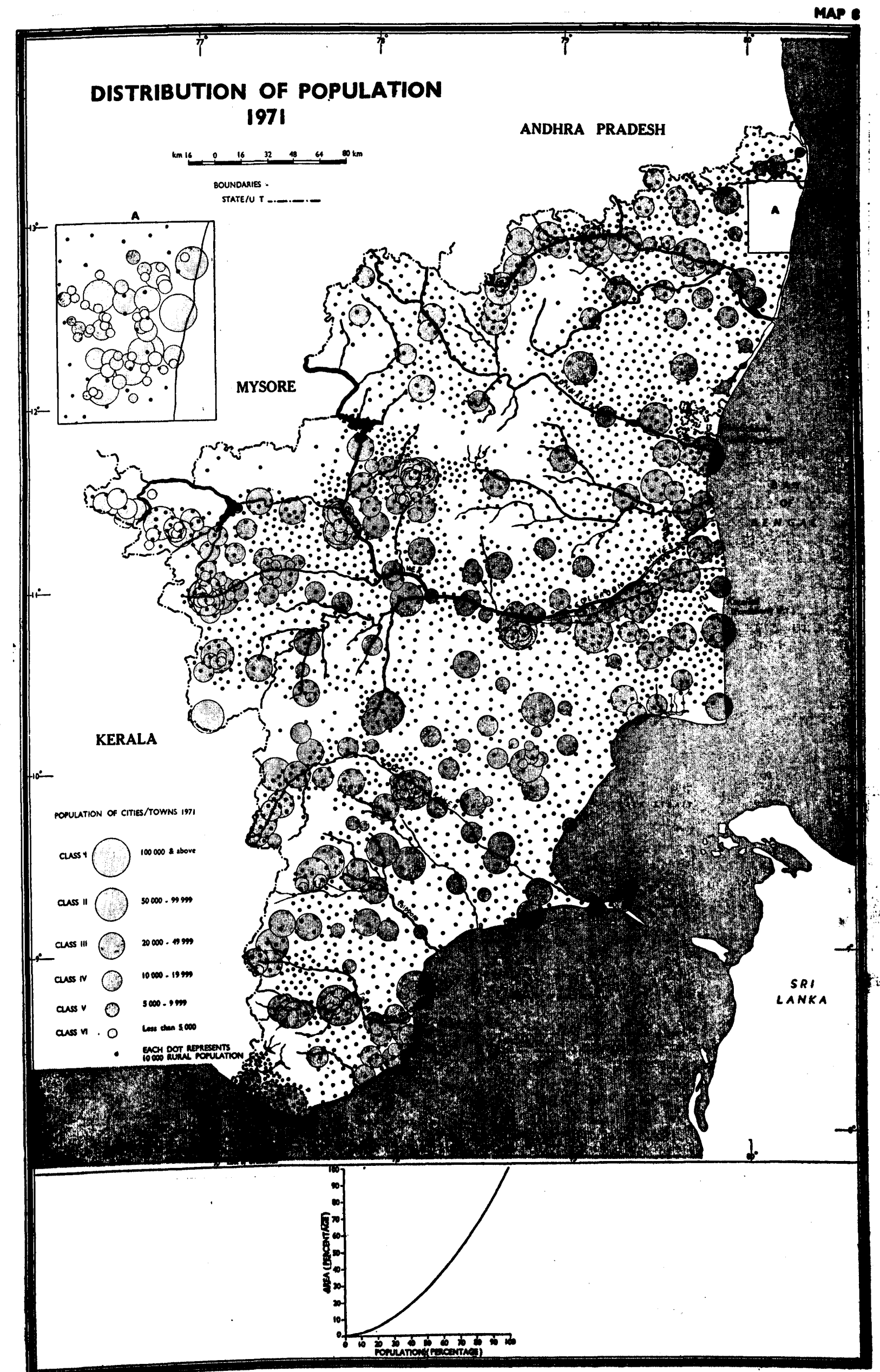
There are 17 cities (Class I Town) with population of over one lakh in the state. There are 27 class II towns and 79 class III towns. The number of towns with less than 5,000 persons is 101.

Data on the number of inhabited villages, rural population, number of towns and the urban population are given below for state and districts.

Unit	RURAL		URBAN	
	Number of inhabited villages	Rural Population	Number of towns	Urban Population
1	2	3	4	5
TAMIL NADU	15,735	28,734,334	439	12,464,834
Madras			1	2,469,449
Chengalpattu	1,778	1,896,909	74	1,010,690
North Arcot	1,867	2,972,702	32	783,095
South Arcot	2,333	3,104,726	14	512,997
Dharmapuri	1,044	1,533,834	7	143,941
Salem	958	2,197,234	43	795,382
Coimbatore	932	2,186,936	58	1,556,242
Nilgiris	42	250,780	17	243,235
Madurai	1,013	2,614,003	38	1,324,194
Tiruchirapalli	1,314	2,991,088	32	857,008
Thanjavur	2,002	3,052,694	32	788,038
Ramanathapuram	1,411	2,113,545	34	746,662
Tirunelveli	975	2,171,019	52	1,029,496
Kanniyakumari	66	1,018,144	5	204,405

Based on the talukwise cumulative percentages of area and population to the state's figures in the case of taluks of different densities (from high to low) a line graph is presented below the main map. This distinctly

shows that the extent of concentration of population is high in certain taluks while there is lesser concentration in others due to geographical reasons.



MAP 9

DENSITY OF POPULATION, 1971

This map shows the density of population per km² for all the taluks of the state according to the 1971 Census. The density of population per km² for each taluk is derived by dividing the total population by its total geographical area. Figures thus obtained are grouped into six ranges and all the taluks are shaded by choropleth technique as shown in the legend on the map.

The highest density (19,293) is recorded in Madras city, which indicates the very high concentration of population in this metropolis, when compared to other taluks. This is due to the availability of a large number of commercial and manufacturing units in the city besides Government offices, educational institutions, transport terminals, etc. leading to a continuous inflow of migrants from outside areas. The next higher density is recorded by Madurai South Taluk (2,187) where the second biggest city of the state, viz., Madurai, lies along with its suburban areas. The third highest density is recorded by Agasteeswaram taluk (1,226) of Kanniyakumari district in which Nagercoil city lies. Saidapet taluk in Chengalpattu district has also a significant population density of 1,178. It surrounds Madras and has, within its boundary, a large number of satellite towns influenced by the city of Madras. Six other taluks which have a density between 600 and 1,000, are Tiruchirapalli (946), Vilavancode (903), Kumbakonam (785), Coimbatore (699), Kalkulam (698) and Tuticorin (643). Except the two taluks of Vilavancode and Kalkulam, lying in Kanniyakumari district, the remaining four have cities with a population of 100,000 and above within their territory.

The average density for the state as a whole is 317; 46 taluks and Madras city have recorded more density than this figure. Two taluks have the same density as the state (Palladam taluk in Coimbatore district and Nilakottai taluk in Madurai district) while the remaining 68 taluks have lower densities than that of the state average.

There are four taluks with a population density between 501 and 600 of which two are in Thanjavur district and one each in South Arcot and Salem Districts. Fifteen taluks fall in the density range 401-500 out of which five taluks lie in Thanjavur district while three each are in North Arcot and Tirunelveli districts. There are 24 taluks in the range of 301-400 persons per km² and many of these taluks are in the northern and western regions of the state. Six of these 24 taluks are in North Arcot district and four are in Chengalpattu district.

The range 201-300 represents the largest number of taluks (44) in the state, Except Madras and Nilgiris, every district has one or more taluks falling in this range of lower density. The districts with larger number of taluks under this range are Tiruchirapalli (eight taluks) and Madurai (seven taluks). South Arcot, Ramanathapuram and Tirunelveli district also have four taluks each in this range.

Twenty taluks have recorded very low density of below 200 persons per km². Four such taluks in the Ramanathapuram district along with two in Tirunelveli and one in Thanjavur districts form a continuous tract of low density region in the southern part; the taluks are Arantangi, Tiruvadanai, Sivaganga, Aruppukottai, Mudukulathur, Vilathikulam and Kovilpatti. Hilly and

forest tracts with sparse human habitation exist in a number of taluks in the western parts of the state and hence we find a number of taluks in these regions having low density of population. Three taluks in Coimbatore district and two each in Dharmapuri and Nilgiris districts lie in the western ghat region and fall in the lowest density range. Taluks like Polur and Chengam in North Arcot district and Harur in Dharmapuri district are covered by eastern ghat range and have low population density, on account of lesser habitable areas.

The taluk with the lowest density recorded in the 1971 census is Kodaikanal (68) in Madurai district. The other low density taluks are Denkanikotta (100) in Dharmapuri district, Gudalur (129) in Nilgiris district and Vilathikulam (133) in Tirunelveli district.

Density of population for state and districts and the number of taluks in each district with densities above and below the state average are given below :

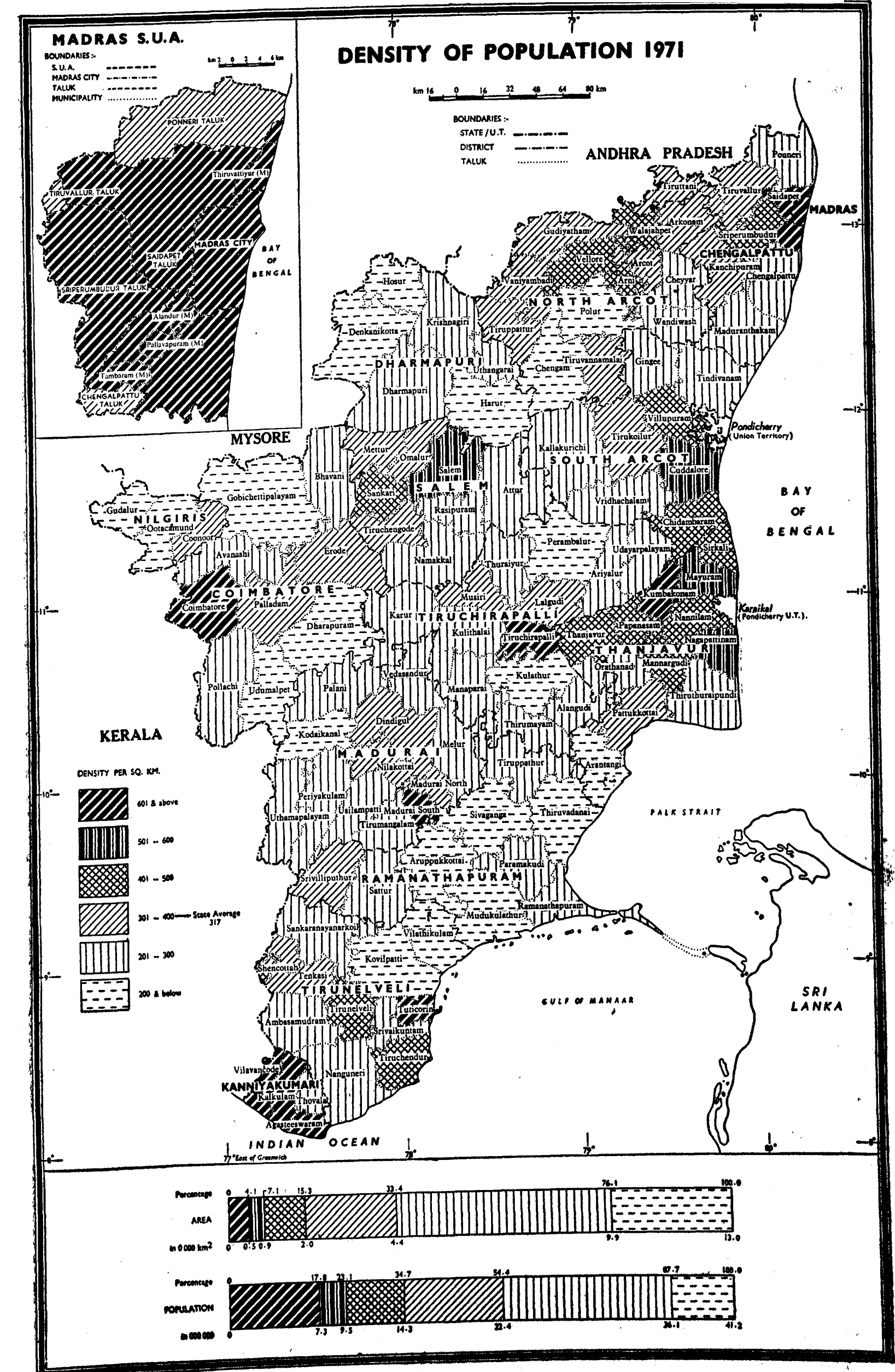
Unit	Density of population per km ²	Number of taluks with density	
		Above the state average	Equal or below the state average
1	2	3	4
TAMIL NADU	317	47	70
Madras	19,293	1	—
Chengalpattu	367	4	4
North Arcot	306	9	4
South Arcot	332	3	5
Dharmapuri	174	—	6
Salem	346	5	3
Coimbatore	279	2	7*
Nilgiris	194	1	2
Madurai	312	3	9*
Tiruchirapalli	269	1	12
Thanjavur	395	9	3
Ramanathapuram	227	1	8
Tirunelveli	280	5	6
Kanniyakumari	726	3	1

£ Treated as one unit

* A taluk each in these districts have the same density as for state.

An inset map of the Madras standard urban area showing the density of Madras city as also the Municipal towns and rural areas of the taluks forming part of it is also presented. Excepting the rural areas of the Madras SUA included in Ponneri, Tiruvallur and Chengalpattu taluks, the remaining areas show higher density.

The area in km² and the population of the taluk falling in the six ranges are presented in two horizontal bar diagrams below the main map. The actual figure and percentages in these diagrams are shown cumulatively for the six ranges (from high to low).



MAP 10

CHANGE IN POPULATION, 1961-71

This map shows for each district the decadal percentage increase in population during 1961-71. The districts have been grouped into five ranges for depiction.

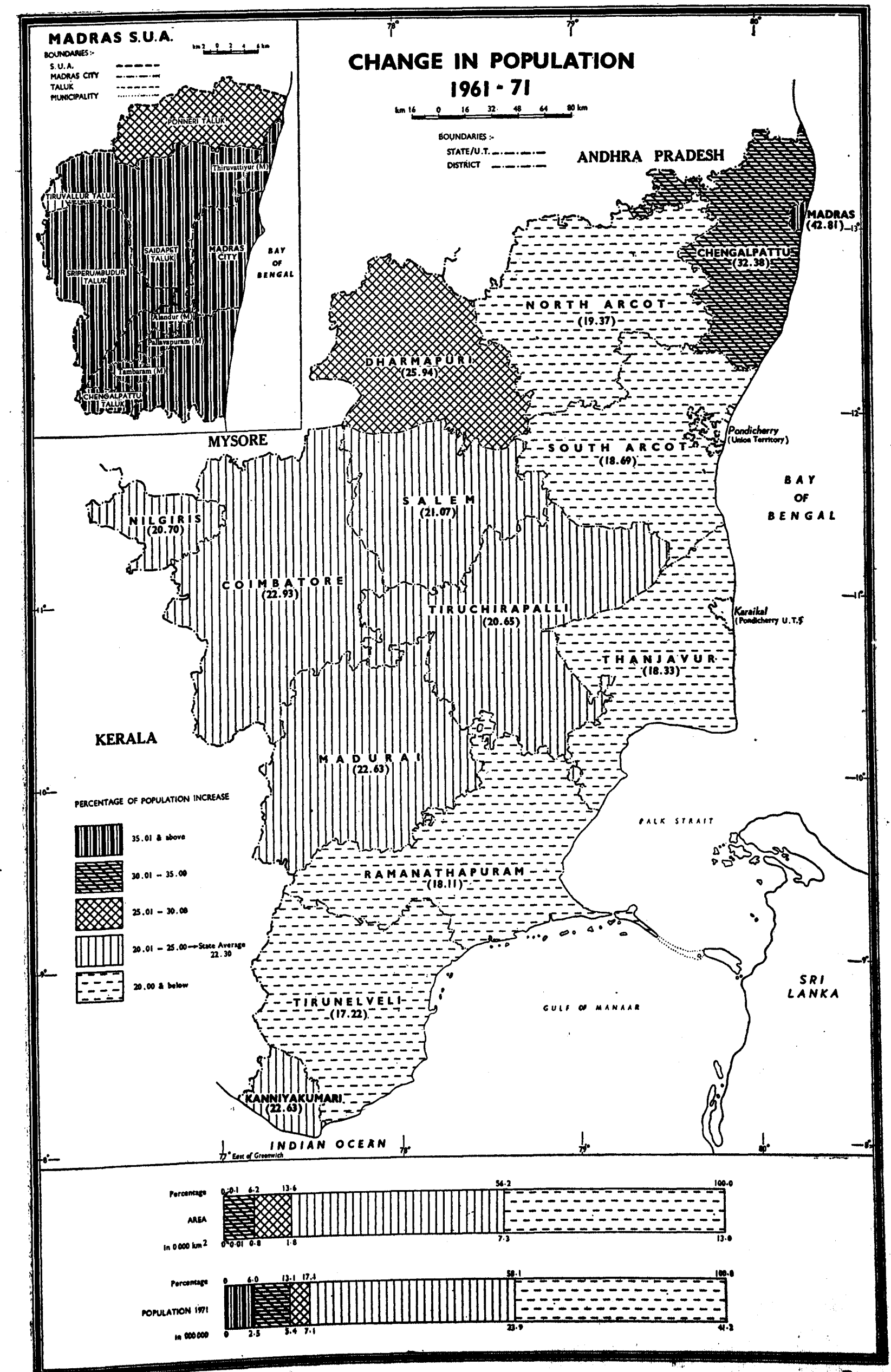
The 1971 population of Tamil Nadu represents an increase of 22.30 per cent over the 1961 population. This is lower than the all India growth rate of 24.80 per cent. Six of the fourteen districts in the State have recorded higher growth rates during the decade than the State average. The highest increase is in Madras district (42.81 per cent) which is entirely urban and coterminous with Madras Municipal Corporation. The city is the fourth populous urban complex in India and a premier commercial and industrial centre of the State besides being the State's administrative headquarters and hence a high growth rate here. The suburbs of Madras extend into the vast surrounding areas of the adjoining Chengalpattu district and hence the latter has the second highest decadal growth rate of 32.38 per cent among the districts of the State. Apart from the above two districts the backward district of Dharmapuri at the north-western part of the State which has the lowest density (174) among the districts has recorded a high growth rate of 25.94 per cent during the decade 1961-71. The five districts of Salem, Coimbatore, Nilgiris, Madurai and Tiruchirapalli in the central and western region form a contiguous block falling in the growth range of 20 to 25 per cent. All coastal districts of the state barring Kanniyakumari and the high growth region of Madras-Chengalpattu districts, have low growth rates ranging from 17.22 per cent in Tirunelveli district in the extreme south and gradually rising in the northern coastal areas to 18.69 per cent in South Arcot district. The districts in the interior have comparatively higher growth rates while the coastal districts have shown lower increases.

The population of state and districts during 1971 and 1961, and the percentage of population increase in 1971 with reference to 1961 are given in the following statement :

Unit	Census Population		Percentage of population increase, 1961-71
	1971	1961	
1	2	3	4
TAMIL NADU	41,199,168	33,686,953	22.30
Madras	2,469,449	1,729,141	42.81
Chengalpattu	2,907,599	2,196,412	32.38
North Arcot	3,755,797	3,146,326	19.37
South Arcot	3,617,723	3,047,973	18.69
Dharmapuri	1,677,775	1,332,251	25.94
Salem	2,992,616	2,471,857	21.07
Coimbatore	4,373,178	3,557,471	22.93
Nilgiris	494,015	409,308	20.70
Madurai	3,938,197	3,211,400	22.63
Tiruchirapalli	3,848,816	3,190,123	20.65
Thanjavur	3,840,732	3,245,882	18.33
Ramanathapuram	2,860,207	2,421,615	18.11
Tirunelveli	3,200,515	2,730,279	17.22
Kanniyakumari	1,222,549	996,915	22.63

The inset map shows the Madras Standard Urban Area, which has recorded a very high decadal growth rate of 49.30 per cent and has a population of 3,476,191 in 1971. The Madras Standard Urban Area with Madras as core town encompasses 57 more urban and 213 rural units spread over five taluks in adjacent Chengalpattu district.

The area in km² and the 1971 Census population of the districts falling under the five ranges from high to low are given in actual figures and percentages in the two bar diagrams.



MAP 11

GROWTH OF POPULATION 1961-71

This map shows the increase in population during the decade 1961-71 in two ways.

The growth rates of population has been worked out at the district level by using the following formula. The 1961 population is subtracted from the 1971 population. The difference is divided by the 1961 population and then multiplied by the figure 100. The growth rates of population in the districts are grouped into six convenient ranges taking into account the state average growth rate. Different ranges are hatched differently.

Secondly, the component of the 1971 population, representing the actual increase over the 1961 population of the district/state, is shown as a shaded sector in the pie diagram drawn proportional to the 1971 population. The unshaded portion of the circle represents the 1961 population of the district/state and the shaded portion represents the increase in population from 1961 to 1971. The percentage of this component representing the in-

crease in population from 1961 to 1971 has been arrived at as follows. The 1961 population is subtracted from the 1971 population. This figure is divided by the 1971 population and then multiplied by 100. The actual 1971 population of the district/state is indicated on top of the circle while the percentage increase in population during 1961-71 expressed as a percentage of the 1971 population is printed in the shaded portion of the pie graph.

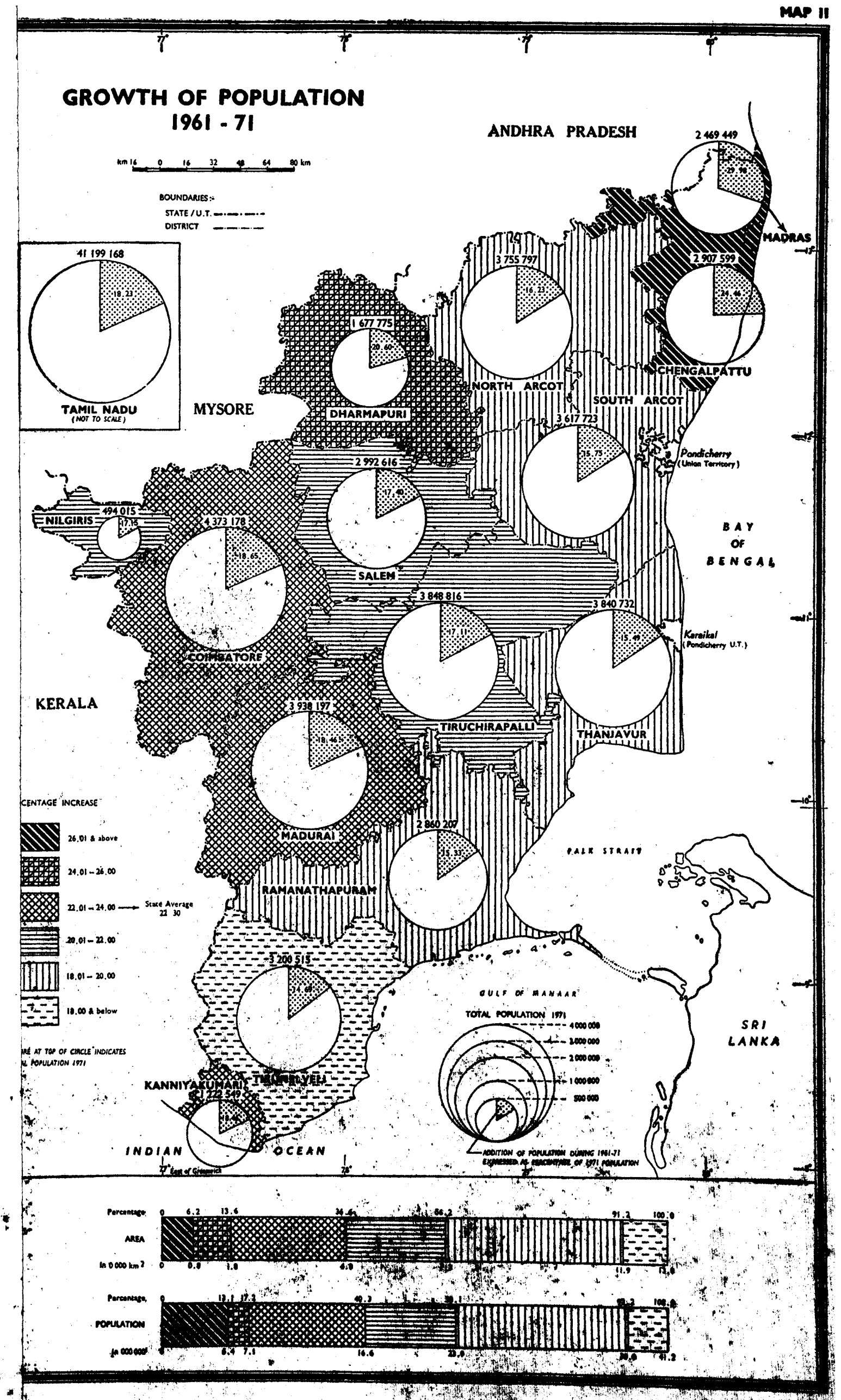
Six districts out of 14 have growth rates above the state average. Eight districts come below. A high growth zone is seen in the north-east and in the west. The southern districts with the exception of Kanniyakumari emerge as a low growth region.

The statement below gives the population recorded in 1961 and 1971 for the state and districts together with absolute and percentage increases.

Unit	Population		Increase		Rank in growth
	1971	1961	Absolute	Percent	
1	2	3	4	5	6
TAMIL NADU	41,199,168	33,686,953	7,512,215	22.20	..
Madras	2,469,449	1,729,141	740,308	42.81	1
Chengalpattu	2,907,599	2,196,412	711,187	32.38	2
North Arcot	3,755,797	3,146,326	609,471	19.37	10
South Arcot	3,617,723	3,047,973	569,750	18.69	11
Dharmapuri	1,677,775	1,332,251	345,574	25.94	3
Salem	2,992,616	2,471,857	520,759	21.07	7
Coimbatore	4,373,178	3,557,471	815,707	22.93	4
Nilgiris	494,015	409,308	84,707	20.70	8
Madurai	3,938,197	3,211,400	726,797	22.63	5
Tiruchirapalli	3,848,816	3,190,123	658,693	20.65	9
Thanjavur	3,840,732	3,245,882	594,850	18.33	12
Ramanathapuram	2,860,207	2,421,615	438,592	18.11	13
Tirunelveli	3,200,515	2,730,279	470,236	17.22	14
Kanniyakumari	1,222,549	996,915	225,634	22.63	6

At the foot of the map, two bar diagrams are shown. The top bar represents the geographical area of the districts coming under each range of population growth and the lower bar represents the population of the

district in each range of growth. The hatchings in the bar graphs correspond to those shown in the map. Both cumulative percentage values and absolute numbers are printed on the upper and lower sides of the bars.



MAP 12
FERTILITY 1971

The map represents child-woman ratio which is an index of fertility. This is depicted for all the districts of Tamil Nadu on this map.

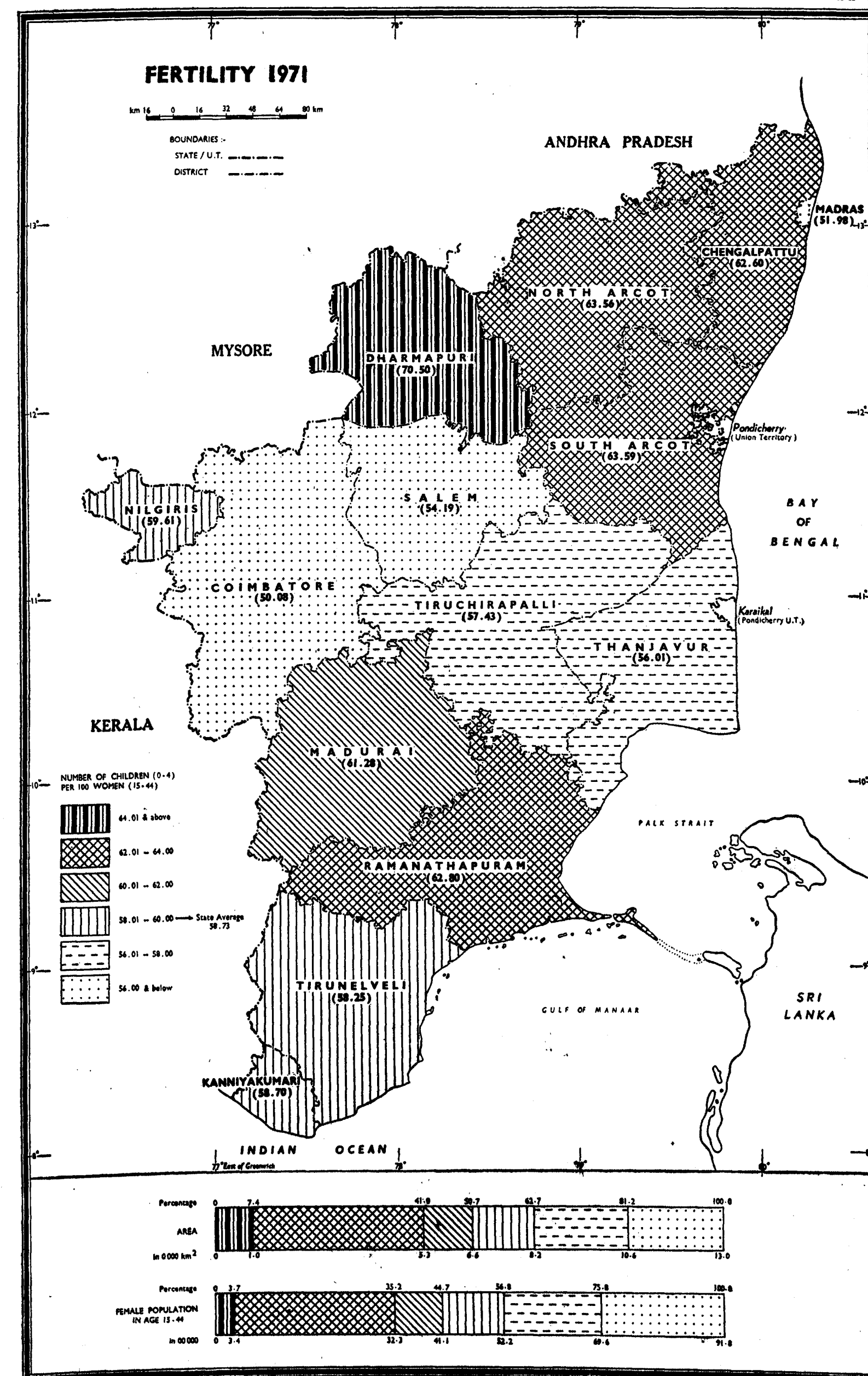
Child-woman ratio is defined as the proportion of the number of children in the age group 0-4 to 100 women in the age group 15-44. The child-woman ratios for the districts have been grouped into six broad ranges.

The child-woman ratio is 58.73 for the State as a whole. Of the fourteen districts of the State, seven are below this ratio and seven are above. The district with the highest fertility is Dharmapuri with an index of 70.50. The adjoining districts of North Arcot and South Arcot have also high indices of 63.56 and 63.59 respectively. Very low ratios have been recorded by Coimbatore with 50.08 and Madras City with 51.98. These two districts represent the two prominent industrialised and urbanised regions of the state and it is significant that they have low fertility indices. The districts of Salem, Tiruchirapalli, Thanjavur, Tirunelveli and Kanniyakumari are the other five districts which have lower indices of fertility when compared with the state index. These five districts are not much industrialised and are mainly dependent on agricultural economy; the urban component of the population is also not very high except in Tirunelveli district.

Data on the child population of 0-4 ages and reproductive women of 15-44 ages along with the ratios are presented in the following table :

Unit	Children of 0-4 age-group	Women of ages 15-44	No. of children (0-4) per 100 women (15-44)
1	2	3	4
TAMIL NADU	5,392,146	9,181,142	58.73
Madras	294,419	566,388	51.98
Chengalpattu	398,167	636,076	62.60
North Arcot	515,991	811,803	63.56
South Arcot	507,645	798,315	63.59
Dharmapuri	241,561	342,651	70.50
Salem	361,497	667,075	54.19
Coimbatore	493,802	986,020	50.08
Nilgiris	66,332	111,270	59.61
Madurai	538,453	878,717	61.28
Tiruchirapalli	499,254	869,306	57.43
Thanjavur	488,704	872,454	56.01
Ramanathapuram	403,225	642,116	62.80
Tirunelveli	423,321	726,773	58.25
Kanniyakumari	159,775	272,178	58.70

The bar diagrams give the area and female population of the age group 15-44, of the districts falling under the six ranges shown in the map. The area as also the number of reproductive women of 15-44 are indicated in absolute figures and percentages in these ranges cumulatively.



4. SEX AND AGE STRUCTURE

MAP 13

SEX RATIO, 1971

This map shows the sex ratio as in the 1971 Census at taluk level in Tamil Nadu. Sex ratio refers to the number of females per 1,000 males. Based on the sex ratio, all the 116 taluks and Madras city have been grouped under seven broad ranges, as shown in the legend. Taluks falling under each range have been hatched by choropleth.

At the state level, the sex ratio is 978. Sixty-three taluks have registered sex ratio above this state average. In 29 taluks, females outnumber males. In as many as 28 taluks, the sex ratio ranges from 1,001 to 1,100. The only taluk which has registered a ratio of over 1,100 is Tiruchendur (1,121) in Tirunelveli district. All these taluks having sex ratio above parity are in the southern region, particularly in Ramanathapuram and Tirunelveli districts. Eight out of nine taluks in Ramanathapuram district and ten out of 11 taluks in Tirunelveli district have sex ratios of over 1,000. There are four taluks each in Madurai and Tiruchirapalli districts and three taluks in Thanjavur district which have also registered sex ratios of over 1,000. Most of these taluks are close to one another and form a large contiguous area in the southern region.

It is in the range of 981-1000 that the largest number of taluks (33) is found. Eight out of the 12 taluks in Thanjavur district and seven out of the 13 taluks in Tiruchirapalli district come under the above range. There are five taluks in Madurai district which show a

sex ratio of 981 to 1,000. All except Madras, Chengalpattu and Nilgiris districts have at least one taluk under this range.

There are 31 taluks in the range of 961-980. Eight of these taluks are in North Arcot district, five in South Arcot and four each in Chengalpattu and Coimbatore districts. Three taluks each in this range are in Dharmapuri and Salem districts. It can be observed from the map that most of the taluks within this range lie in the northern districts.

There are 18 taluks in the range of 941-960. Four taluks adjoining one another in Salem district and three in Chengalpattu district fall in this range. Tiruchirapalli taluk in Tiruchirapalli district, Madurai south taluk of Madurai district and Kalkulam taluk of Kanniyakumari district are the only three taluks in the southern region to fall in this low sex ratio range.

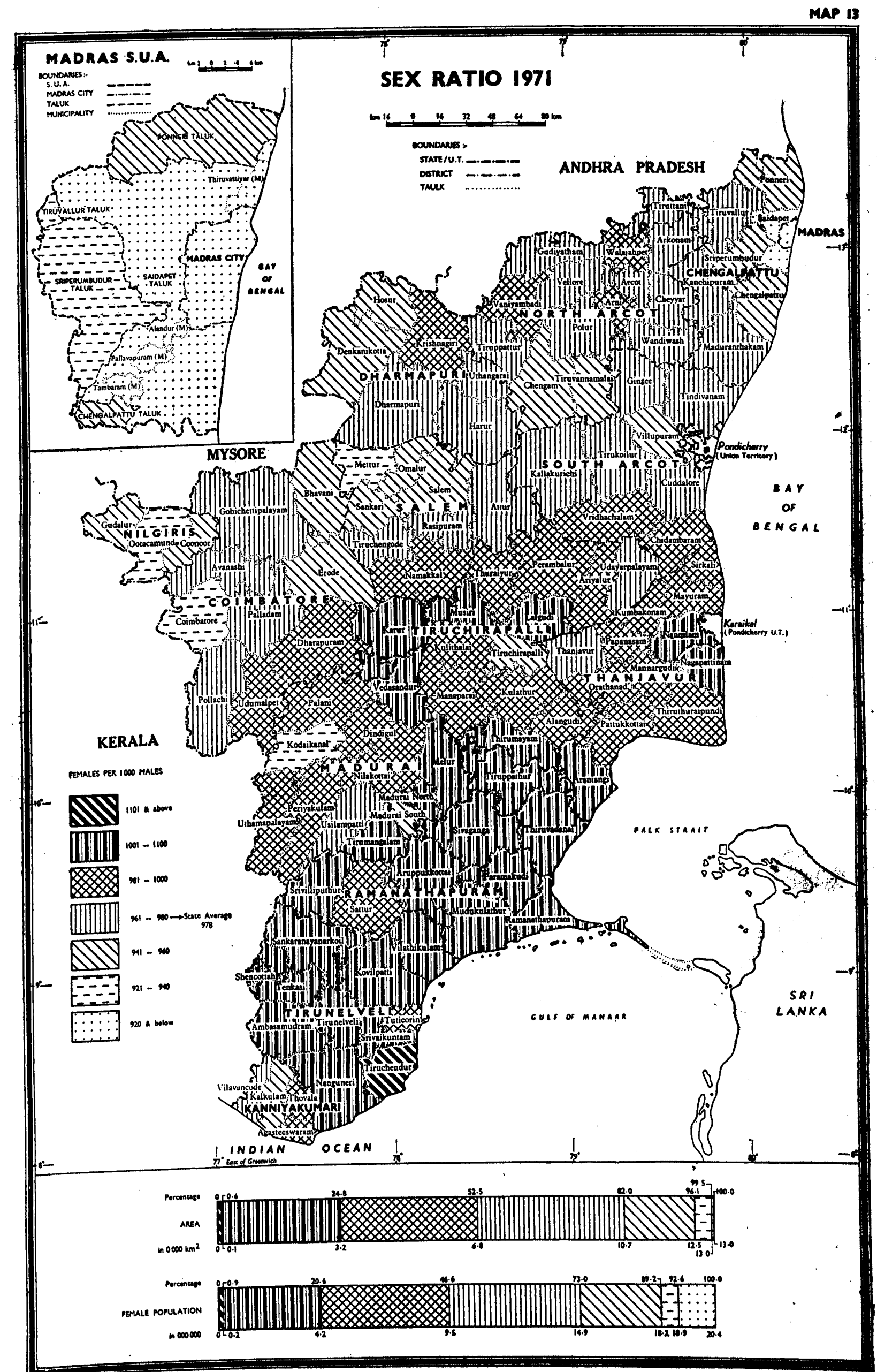
Madras (904) among the districts and Saidapet (906) among the taluks are the units with the lowest sex ratio. An inset map showing the Madras Standard Urban Area with separate hatchings to denote the sex ratio of Madras, the four municipal towns and rural areas of five taluks (in Chengalpattu district) which form part of the Standard Urban area is also presented.

Sex ratios in the state and districts along with the number of taluks in each of the seven sex ratio ranges are presented below :

Unit	Sex ratio	Number of taluks in sex-ratio range						
		1101 and above	1001-1100	981-1000	961-980	941-960	921-940	920 and below
1	2	3	4	5	6	7	8	9
TAMIL NADU	978	1	28	33	31	18	4	2
Madras	904	..	..	..	..	..	..	1
Chengalpattu	948	..	..	..	4	3	..	1
North Arcot	971	..	..	3	8	2	..	..
South Arcot	969	..	..	2	5	1	..	..
Dharmapuri	969	..	..	1	3	2	..	..
Salem	963	..	..	1	3	3	1	..
Coimbatore	957	..	..	2	4	2	1	..
Nilgiris	944	..	..	..	..	2	1	..
Madurai	986	..	4	5	1	1	1	..
Tiruchirapalli	992	..	4	7	1	1	..	..
Thanjavur	994	..	3	8	1	..	..	..
Ramanathapuram	1,042	..	8	1	..	..	..	..
Tirunelveli	1,042	1	9	1	..	..	..	..
Kanniyakumari	972	..	..	2	1	1	..	..

* Two horizontal bar diagrams below the main map depict the total area in km² and the total female population of the taluks falling in the seven ranges (from high to low as shown in the legend of the main map).

The figures of area/female population for each range as also their percentages are indicated cumulatively in these diagrams.



MAP 14

CHANGE IN SEX RATIO 1961-1971

These two maps, presented side by side on one plate, depict the decennial change in sex ratio during 1961-1971 in the state.

The isopleths are drawn on the basis of sex ratio values (number of females per 1,000 males) at taluk level and intervening spaces are shaded by various hatchings as shown in the index on the map. The hatchings above equality line (sex ratio 1,000 and above) are shown in red.

The areas under high sex ratio ranges (of over 980) are comparatively less in 1971 than in 1961; this is symptomatic of a decreasing female population as compared to male population. For example, three pockets of high sex ratio (of over 1,100 females per 1,000 males) existed in 1961 in Tirunelveli, Ramanathapuram and the southern tip of Tiruchirapalli districts; in 1971, however, there is only one small part in Tirunelveli district with such a high sex ratio. This area is Tiruchendur taluk which has recorded the highest ratio (viz. 1,141 females per 1,000 males) among the taluks of this state.

Areas with the sex ratio range of 1,050-1,100 too, have reduced from 1961 to 1971. Such areas are all in the southern districts of the state, where we find comparatively higher sex ratios than in other part of the state. Sizable male population belonging to certain areas of Madurai, Tiruchirapalli, Thanjavur, Tirunelveli and Ramanathapuram districts migrate to neighbouring districts and also to foreign countries for trade/business purposes and in search of employment avenues and this is generally attributed as the main reason for such distinctively high sex ratios in these regions. Some places with over 1,100 females per 1,000 males in 1961 have moved down to the next lower range of 1,050-1,100 and these are Nanguneri taluk in Tirunelveli district, Ramanathapuram and Paramakudi taluks of Ramanathapuram district and Thirumayam taluk of Tiruchirapalli district.

In the range of 1,000-1,050 also, a substantial decrease in area in 1971 is easily noticeable. A large area of Thanjavur district as also sizable portions of Tiruchirapalli, Coimbatore and Madurai districts have gone down to lower ratios in the decade. In the case of Thanjavur district, the decline is noticed in almost all taluks, and barring a few, most of them have fallen from a higher range in 1961 to the next lower range in 1971.

Large areas in North Arcot and South Arcot districts have recorded decreased sex ratios in 1971 as compared to 1961. The western parts of Chengalpattu district and central regions of Salem, Dharmapuri and Coimbatore

districts have also recorded a fall in sex ratios in the latest census of 1971.

Except in the last sex ratio range (of less than 940) in which we do not see any large change of area, the other lower ranges with values of 940-960 and 960-980 are seen over a wider region in 1971 in the northern Tamil Nadu extending over Chengalpattu, North Arcot, South Arcot, Dharmapuri and Salem districts. Large areas of Coimbatore and Nilgiris districts as also western parts of Madurai district have also fallen into such lower ranges in 1971 from high sex ratio ranges in 1961.

The sex ratio for the state and districts during 1971 and 1961 censuses are presented below:

Unit	Sex ratio	
	1961	1971
1	2	3
TAMIL NADU	992	978
Madras	901	904
Chengalpattu	960	948
North Arcot	989	971
South Arcot	984	969
Dharmapuri	968	969
Salem	982	963
Coimbatore	966	957
Nilgiris	914	944
Madurai	998	986
Tiruchirapalli	1,008	992
Thanjavur	1,016	994
Ramanathapuram	1,060	1,042
Tirunelveli	1,053	1,042
Kanniyakumari	979	972

The distribution of the 117 taluks (including Madras which has been taken as a single taluk unit) of the state, under the seven ranges of sex ratios as in the main map (from high to low) are shown in the horizontal bar diagrams below the two maps.

The cumulative number of taluks in these ranges is marked in the diagrams. It may be seen that in the ranges above the parity level of 1,000 (i.e. equal number of males and females), there is a substantial decrease, from 49 taluks in 1961 to 29 taluks in 1971. In the lower ranges of 940-960 and 960-980, there is an increase of 10 taluks in each range in 1971 over that of 1961.

MAP 15
RURAL SEX RATIO 1971

This map shows the sex ratio, i.e., the number of females per 1,000 males, in the rural areas at taluk level in Tamil Nadu. Barring Madras district which is entirely urban, the ratio has been depicted for all the 116 taluks of the relevant jurisdiction. The taluks have been grouped under seven broad ranges.

A ratio of 1,000 would represent an equal number of males and females. For the rural areas of Tamil Nadu as a whole, the sex ratio is 990. The ratio is more than 1,000 in all the taluks of Ramanathapuram and Tirunelveli districts located in the extreme south and in some taluks of Thanjavur, Tiruchirapalli and Madurai districts. There are seven taluks which have a rural sex ratio of 1,076 and above and another five taluks with sex ratios ranging between 1,051 and 1,075; of these 12 taluks, 6 are in Ramanathapuram, 5 in Tirunelveli and one in Tiruchirapalli districts. There are 20 taluks which have rural sex ratios in the range of 1,001, to 1,050. They are all located in the central and southern districts of Tiruchirapalli, Madurai, Thanjavur, Ramanathapuram and Tirunelveli. Rural areas of Perambalur and Kuli-thalai taluks in Tiruchirapalli district as also Orthanad and Nagapattinam taluks in Thanjavur district have recorded sex ratios of exactly 1,000. The taluks which show higher ratios than 1,100 are the coastal taluks of

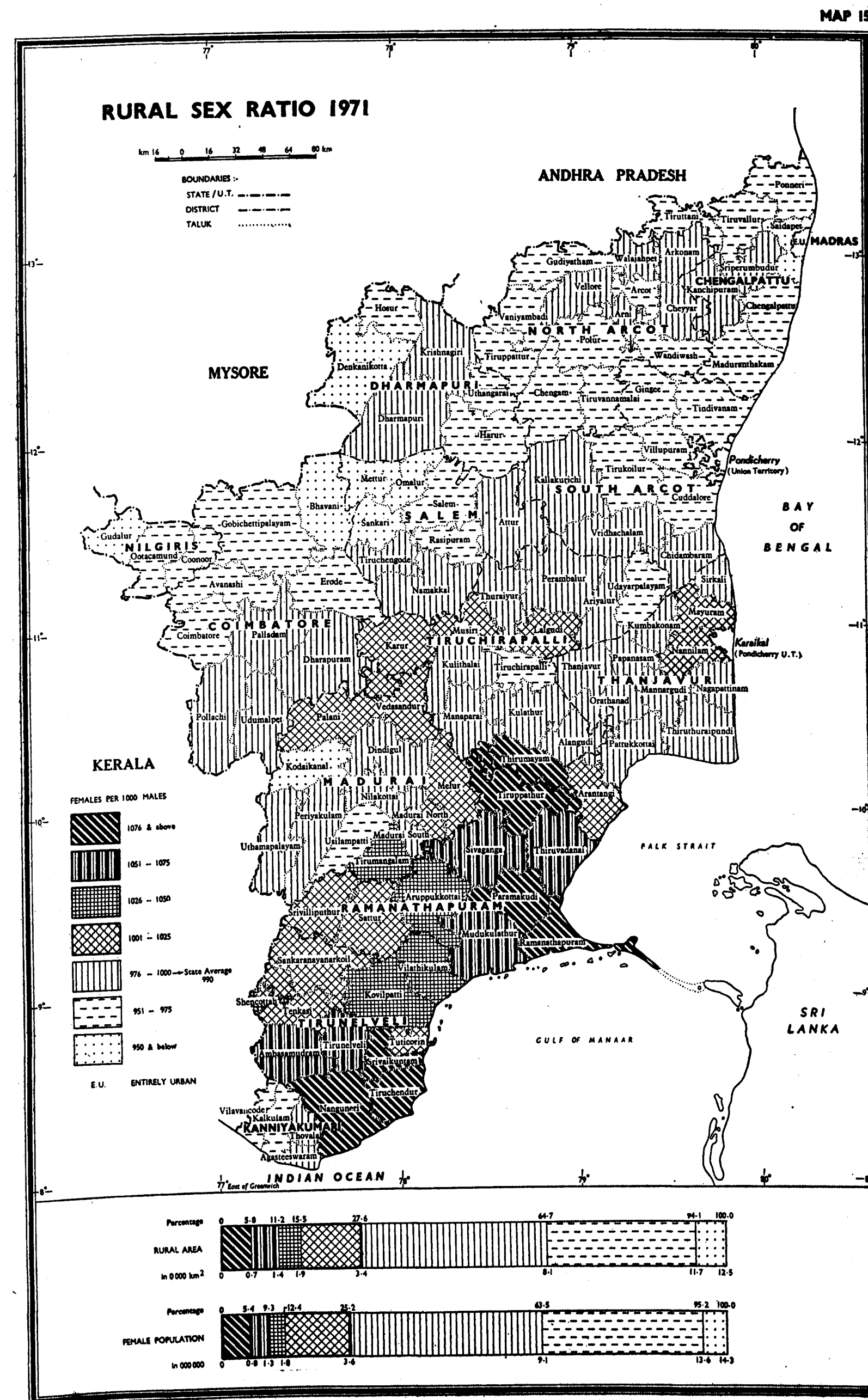
Tiruchendur (1,121) of Tirunelveli district and Ramanathapuram taluk (1,110) in Ramanathapuram district. Six taluks in Tiruchirapalli district and five taluks each in Madurai and Thanjavur districts have sex ratios of 1,000 and above. On the whole, in 36 out of the total of 116 taluks, rural sex ratio is 1,000 and above and these areas are in a continuous spread in the southern part of the state. It is noteworthy that low sex ratio of below 1,000 is widespread in the northern and western regions of the state. Eight taluks come under the last range of 950 and below. The lowest sex ratio for rural areas of taluks is Saidapet (923) in Chengalpattu district. Of the seven other taluks in this range, four taluks lie in a contiguous area in Omalur, Mettur and Sankari in Salem district, and Bhavani in Coimbatore district. Denkanikotta taluk of Dharmapuri district, Gudalur taluk of Nilgiris district and Kodaikanal taluk of Madurai district are the three other isolated taluks falling in the last range of 950 and below. The largest number of 42 taluks fall in the range of 976-1,000, while another 34 are in the range of 951-975.

The sex ratio in the rural areas of districts and the number of taluks of each district falling in the seven ranges as in the map, are presented in the following statement.

Unit	Sex ratio in rural areas	Number of taluks with sex ratio in range of						
		1076 and above	1051-1075	1026-1050	1001-1025	976-1000	951-975	950 and below
1	2	3	4	5	6	7	8	9
TAMIL NADU	990	7	5	5	15	42	34	8
Madras	..	Entirely Urban						
Chengalpattu	965	..	..	..	..	2	5	1
North Arcot	972	..	..	..	..	5	8	..
South Arcot	972	..	..	..	..	3	5	..
Dharmapuri	970	..	..	..	..	2	3	1
Salem	967	..	..	..	..	3	2	3
Coimbatore	974	..	..	..	..	4	4	1
Nilgiris	961	..	..	..	..	..	2	1
Madurai	998	..	..	..	4	5	1	1
Tiruchirapalli	1,000	1	..	..	3	7	2	..
Thanjavur	994	..	..	..	3	9	..	..
Ramanathapuram	1,053	3	3	1	2	..	..	..
Tirunelveli	1,051	3	2	3	3	..	..	..
Kanniyakumari	969	..	..	..	..	2	2	..

The rural area and the rural female population of the taluks falling in the seven ranges from high to low (depicted in the main map) are given in two bar diagrams

at the bottom of the map, where the actual figures and the percentages are presented cumulatively.



MAP 16

CHANGE IN RURAL SEX RATIO 1961-1971

These two maps juxtaposed on one plate reveal the changes in rural sex ratio during 1961-71 in the state. The cartographic technique is same as for map No. 14.

As in the earlier map for general sex ratio, we notice, a general decline in the sex-ratio from high to low values in 1971 when compared with 1961, in a wide area. High sex ratio regions with over 1,100 females per 1,000 males have dwindled in area. The decline in the highest range is seen around Tiruchendur taluk of Tirunelveli district and Ramanathapuram taluk of Ramanathapuram district. Thirumayam taluk of Tiruchirapalli district which has a sex ratio of 1,123 in 1961 has slid into the lower sex ratio range. Areas with rural sex ratio of 1,050-1,100 which surround the high sex-ratio regions of Tiruchendur and Ramanathapuram have also dwindled and a few of these areas have fallen into the next lower range.

The southern districts generally have recorded in successive censuses, higher sex ratios as compared to the districts in the northern and western regions of the state. Large areas of Thanjavur, Tiruchirapalli, Madurai, Ramanathapuram and Tirunelveli districts had sex ratio above parity level (1,000 females per 1,000 males) in 1961. But, we may see from the 1971 map that large areas under the sex ratio range of 1,000-1,050 have gone down to the lower ratio range of 975-1,000. The districts in which considerable areas have fallen to the lower range of 975-1,000 in 1971 from the next higher range are Thanjavur, Tiruchirapalli and Madurai while the districts of Coimbatore, Salem and South Arcot have also similar changes in some area. A few pockets like Kanchipuram taluk in Chengalpattu district, Arkonam and Arni taluks in North Arcot district and Chidambaram taluk in South Arcot district all in the northern parts, which had rural sex ratios of 1,000 and over but below 1,050 in 1961, have also now fallen into the lower sex ratio range. Most of the northern districts have thus recorded a rural sex ratio of less than 1,000 in 1971.

Large areas in the districts of North Arcot, South Arcot, Dharmapuri, Salem and Coimbatore which had sex ratios between 975 and 1,000 in 1961 have registered

lower ratios of 950-975 in the recent census. Very low sex ratio regions (with ratios below 950) existed only in Madras and its environs and in smaller areas in the western parts of Dharmapuri, Coimbatore and Nilgiris districts in 1961. While in Coimbatore region, this area has moved to a higher rural sex ratio range, some of the western parts of Salem have fallen into this lowest range from the next higher range.

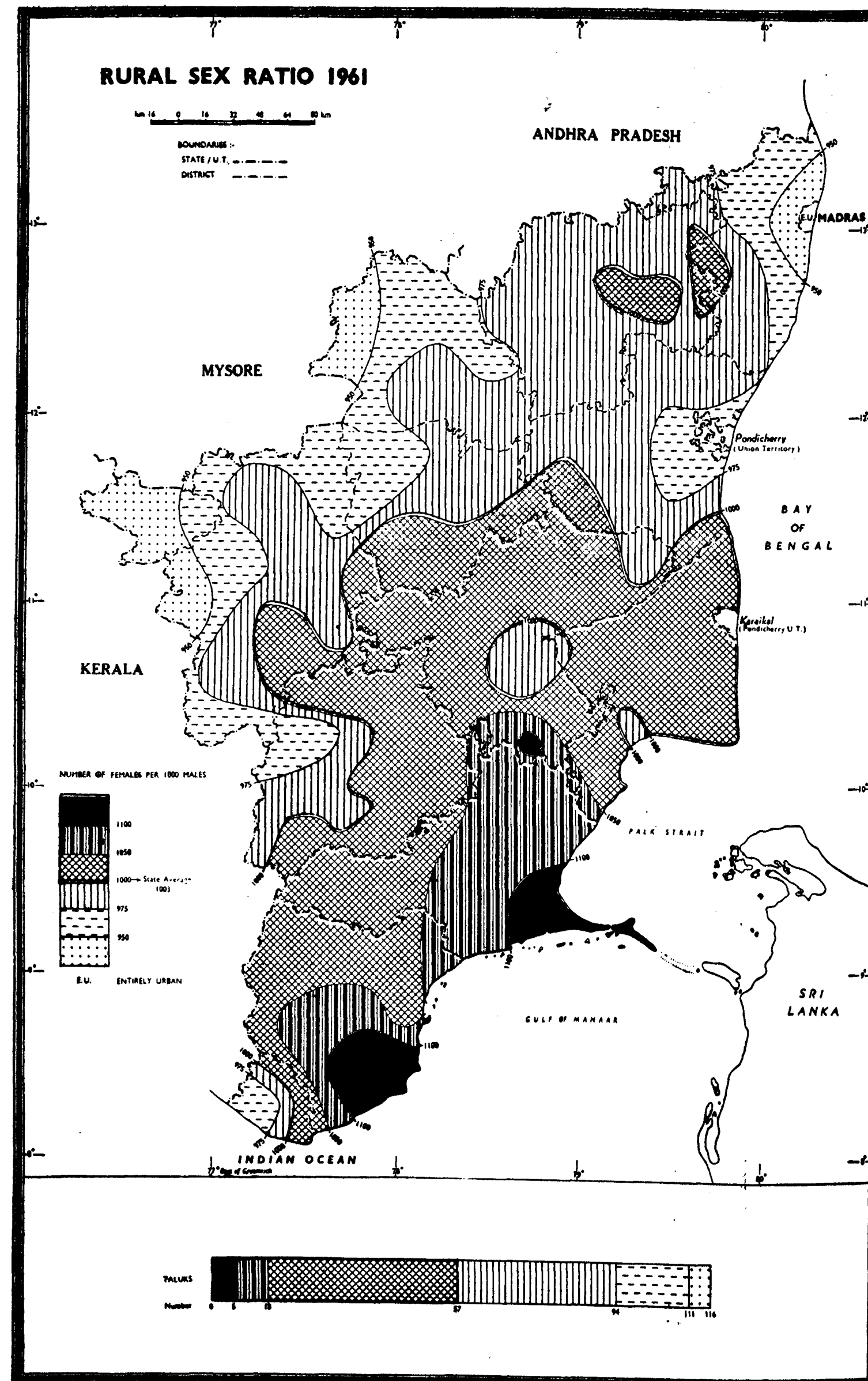
At the state level also, the rural sex ratio has declined from 1,003 in 1961 to 990 in 1971. Data on the rural sex ratio for state and districts for 1961 and 1971 are presented below :

Unit	Rural sex ratio	
	1961	1971
1	2	3
TAMIL NADU	1,003	990
Madras	901	904
Chengalpattu	966	965
North Arcot	990	972
South Arcot	986	972
Dharmapuri	968	970
Salem	988	967
Coimbatore	981	974
Nilgiris	923	961
Madurai	1,011	998
Tiruchirapalli	1,018	1,000
Thanjavur	1,019	994
Ramanathapuram	1,066	1,053
Tirunelveli	1,058	1,051
Kanniyakumari	978	969

Two bar diagrams showing the cumulative number of taluks in the six sex ratio ranges (from high to low) as in the main maps are presented at the bottom of the maps. We may observe from these that the taluks with ratios of 1,000 and over have declined from 57 to 32 during 1961-71 while there is a corresponding increase in the number of taluks in the lower ranges from 59 to 84.

CHANGE IN RURAL SEX RATIO 1961-71

MAP II



MAP 17

URBAN SEX RATIO 1971

This map shows females per 1,000 males in the urban areas as at 1971 Census at taluk level in the seven ranges as shown in the map legend. The seven taluks which are completely rural are Gingee, Chengam, Uthangarai, Udayarpalayam, Nannilam, Vedasandur and Thoivala.

As in the other maps on total and rural sex ratio, taluks with comparatively very high sex ratio are all concentrated in the southern districts. There are five taluks with a sex ratio above 1,050 and of these, Nanguneri (1,124) and Tiruchendur (1,122) taluks of Tirunelveli district, and Thirumayam (1,123) taluk in Tiruchirappalli district stand out prominently. The other two taluks with high sex ratio in urban areas are Thiruvadanai (1,098) and Mudukulathur, (1,068) in Ramanathapuram district. The four taluks with urban sex ratio between 1,026 and 1,050 are Tenkasi and Srivaikuntam in Tirunelveli district and Paramakudi and Ramanathapuram in Ramanathapuram district.

There are 15 taluks in the sex ratio range of 1,001-1,025 and of these five are in the southern district of

Tirunelveli and four in Thanjavur district while two taluks each are in Ramanathapuram and Tiruchirappalli districts. In 26 taluks, the urban sex ratio is in the range 976-1,000 while in 29 taluks it is lower, i.e., 951-975. The average sex ratio for the urban areas of Tamil Nadu is 951. While 19 taluks have recorded a low urban sex ratio of 926 to 950, there are 12 taluks which fall under the last range of 925 and below.

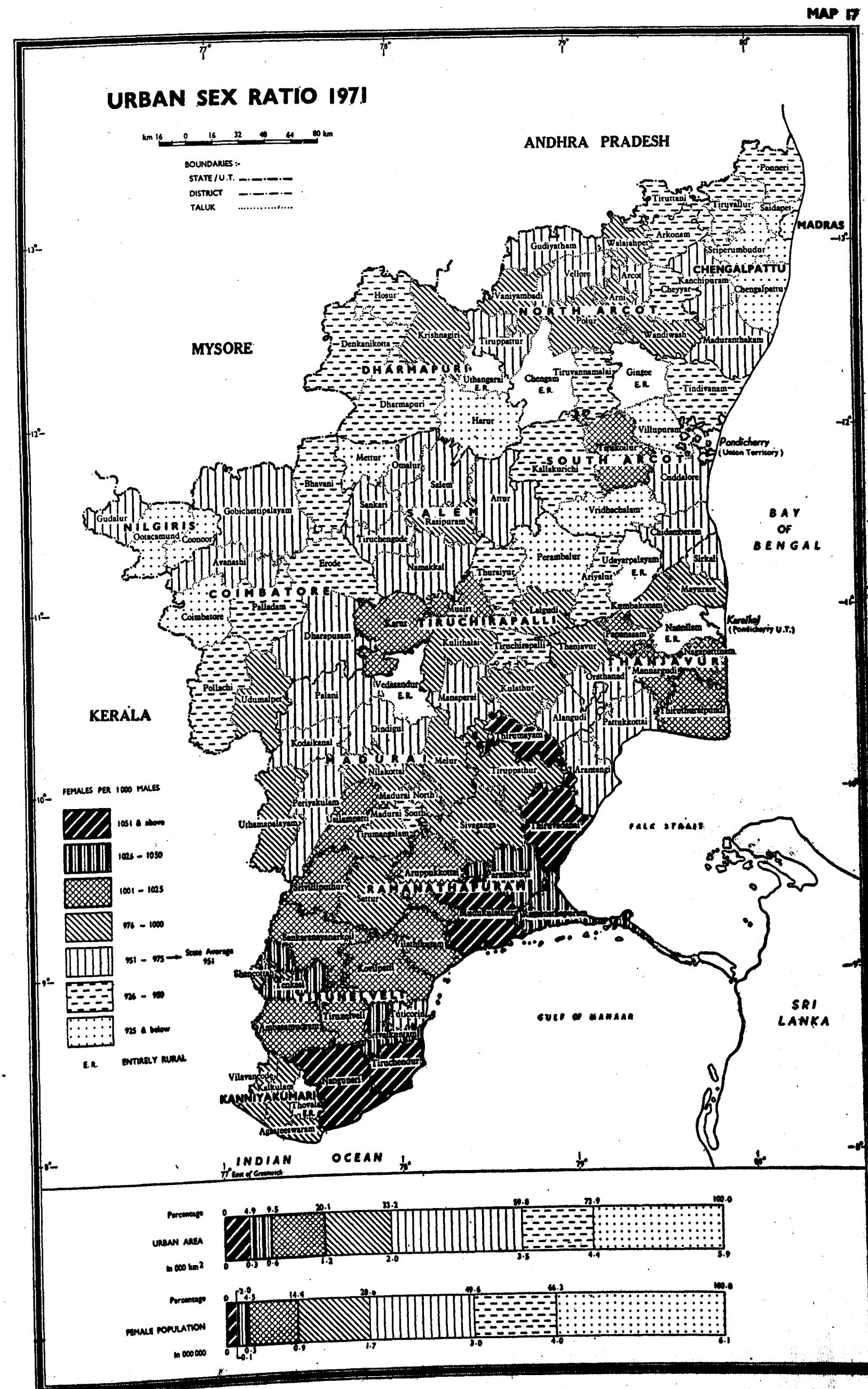
Perambalur taluk having one urban area of Perambalur Panchayat, shows the lowest urban sex ratio of 892. Madras city as also the surrounding Saidapet taluk which encompasses a large number of suburban towns of the city have naturally low sex ratios of 904 and 902 respectively. Sriperumbudur taluk (909) of Chengalpattu district, Vridhachalam taluk (909) of South Arcot district and Coimbatore taluk (908) of Coimbatore district are the other taluks with very low sex ratios.

The urban sex ratio in each district and the number of taluks falling in the seven ranges as in the map are presented in the following statement.

Unit	Urban sex ratio	Number of taluks with urban sex ratio in the range of						
		1051- and above	1026-1050	1001-1025	976-1000	951-975	926-950	925- and below
1	2	3	4	5	6	7	8	9
TAMIL NADU	951	5	4	15	26	29	19	12
Madras	904	..	..	..	..	..	..	1
Chengalpattu	916	..	..	..	..	2	3	3
North Arcot	969	..	..	..	5	4	3	..
South Arcot	954	..	..	1	..	2	2	2
Dharmapuri	952	..	..	..	1	..	3	1
Salem	953	..	..	..	1	6	..	1
Coimbatore	926	..	..	..	1	3	4	1
Nilgiris	927	..	..	..	..	1	..	2
Madurai	964	..	..	1	5	4	1	..
Tiruchirappalli	962	1	..	2	3	2	3	1
Thanjavur	993	..	..	4	3	4	..	..
Ramanathapuram	1,011	2	2	2	3	..	..	..
Tirunelveli	1,023	2	2	5	1	1	..	..
Kanniyakumari	990	..	..	..	3	..	..	..

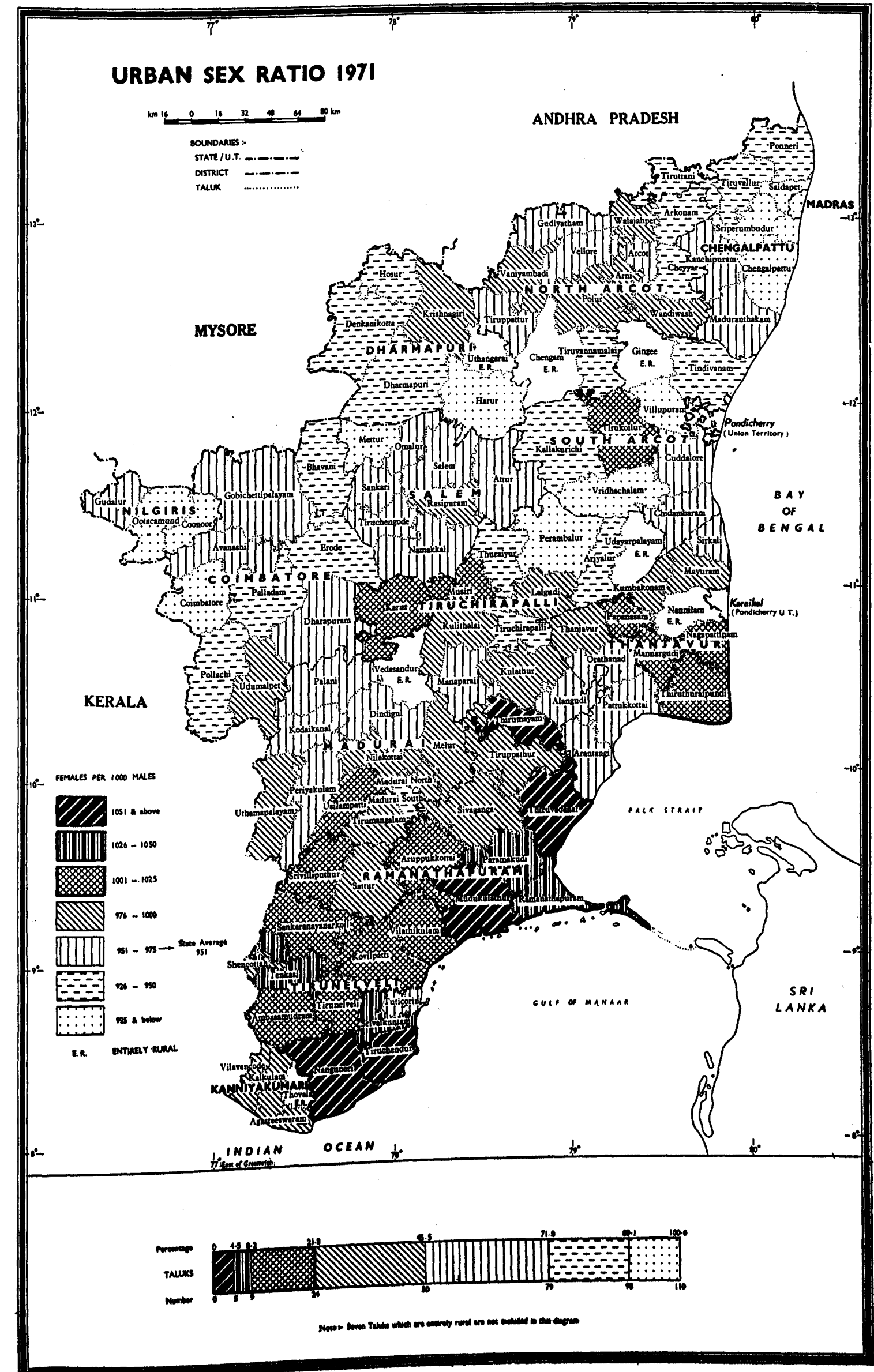
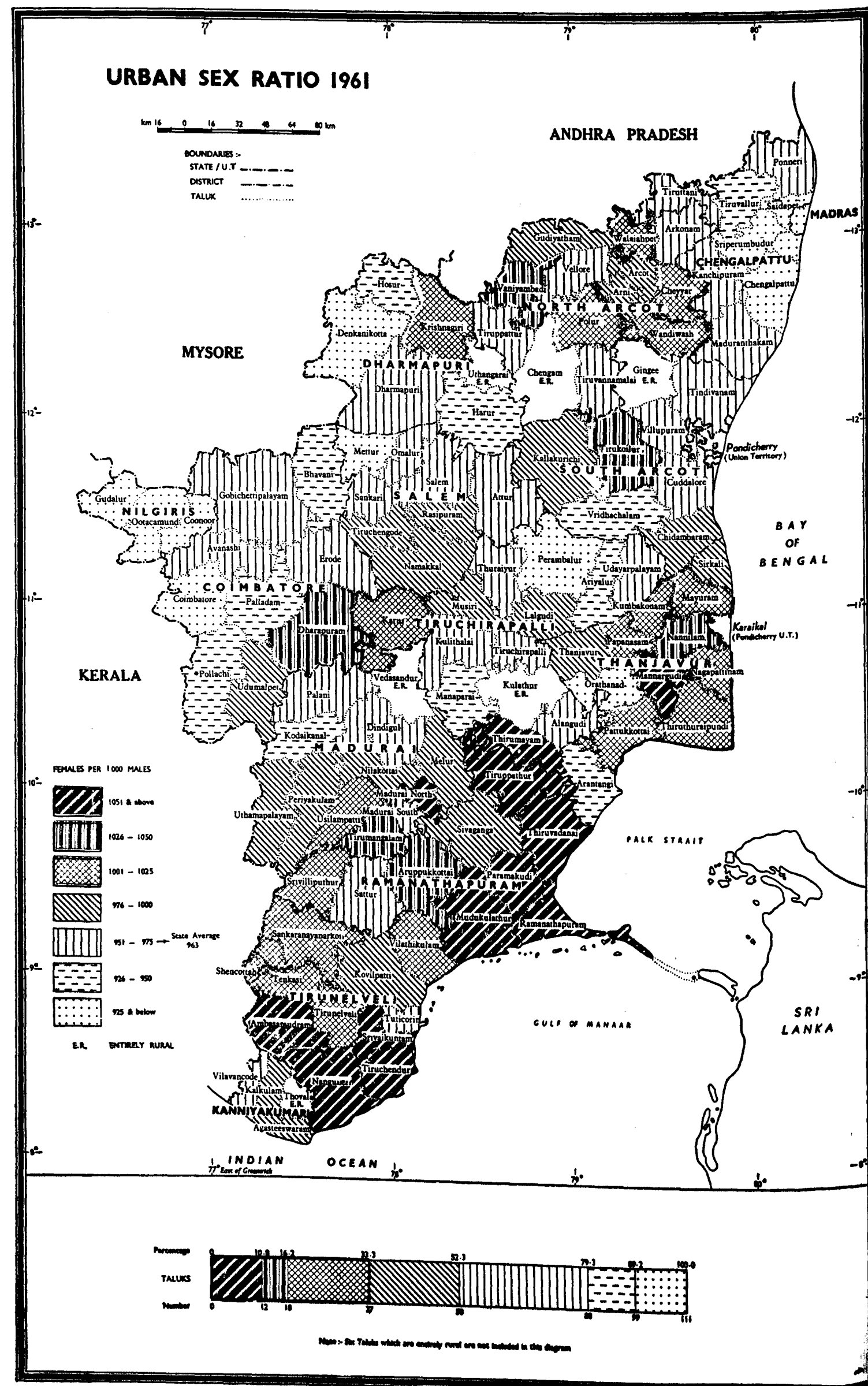
The urban area in km² and the urban female population of the taluks falling in the seven ranges from high to low (as depicted in the main map) are shown

in the two bar diagrams at the bottom of the map. The actual figures as well as percentages for these ranges are indicated in a cumulative manner in these diagrams.



CHANGE IN URBAN SEX RATIO 1961-71

MAP 18



SEX, AGE STRUCTURE AND MARITAL STATUS, 1971

This map shows sex, age structure and marital status for the state at district level according to 1971 Census. The pyramids with divisions represent the four marital status categories among the population in each five year age-group. Persons who have not stated their age in census have been excluded for the purpose of the map; this has however not affected the general portrayal in the map.

At the state level, males are more in number in all the age groups except 25-29 and 30-34 in which female population exceeds the male population. Nearly 13 per cent of the population are infants, (i.e. in 0-4 age group), the males having an edge over the females. Another 13 per cent of the state's population are aged between 5 to 9. Young boys and girls of 5-14 years form nearly a fourth of the total population. Young men and women in the ages of 15 to 34 from 32 per cent of the state's population. While middle aged men and women between 35 to 59 years of age constitute 24.26 per cent, old people of 60 years and above form a small proportion, viz. 5.74 per cent.

Comparatively higher percentages of infants (0-4 ages) among the population are noticed in the industrially backward districts of South Arcot and Dharmapuri while Coimbatore reveals a lower percentage of infants among districts.

In the age groups of 5-9 and 10-14, we find a comparatively higher proportion of population in Dharmapuri (28 per cent) and Nilgiris districts (27 per cent). In the working age group of 15-34 years, we find that among districts, Madras shows the highest percentage

of persons, total as well as sex-wise. While the males of this age group form 19.82 per cent of the total population of Madras city, females of this age-group form 17.54. People migrate to Madras City, particularly in this age group in search of higher educational as well as employment opportunities and this is well reflected in the percentages. In the age-group 35-39, Tiruchirapalli district reveals a higher ratio than the other districts. Old men and women of 60 years of age and above form a high percentage of 6.83 per cent in Tirunelveli district and a low 3.72 per cent in Nilgiris district.

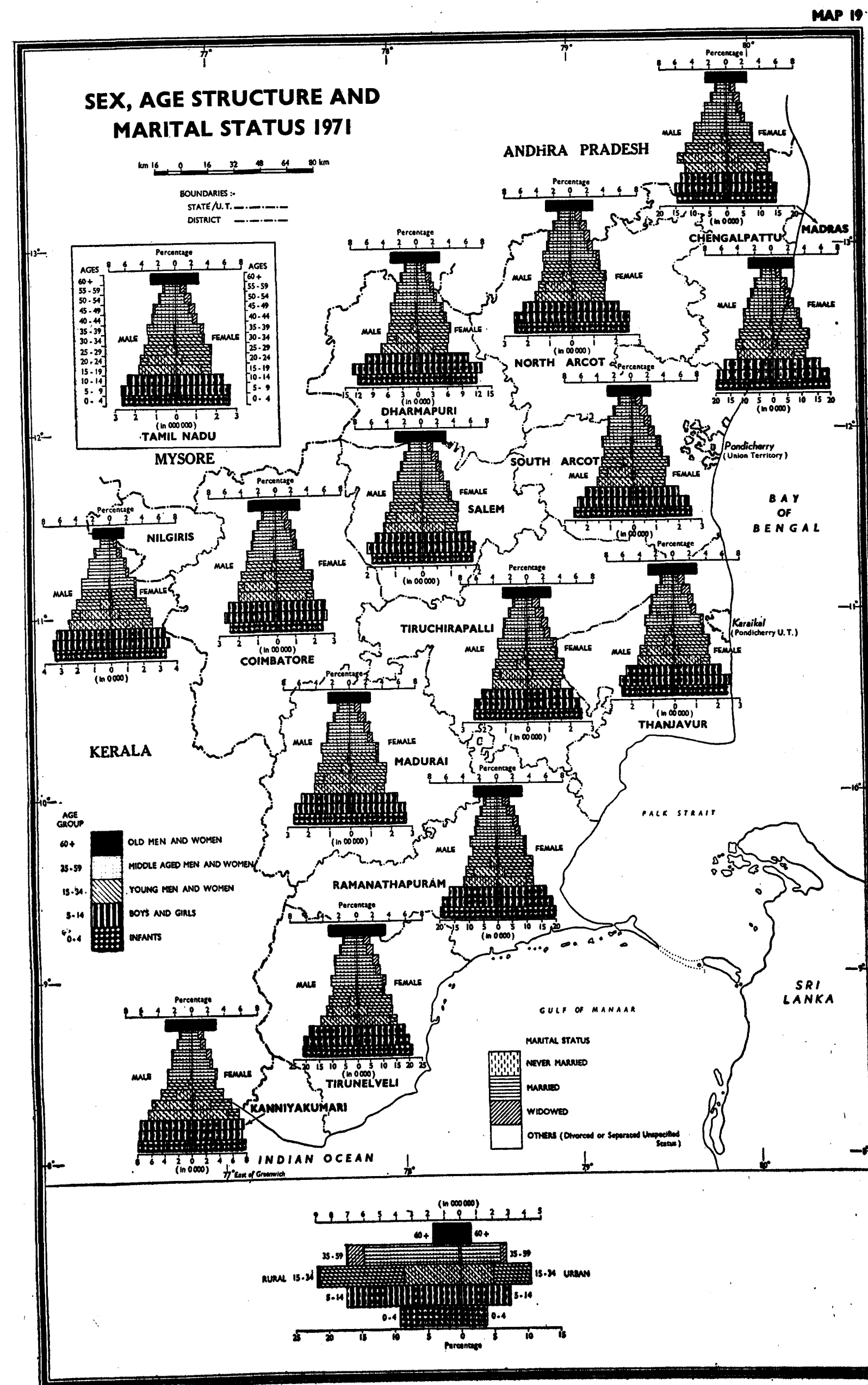
At the state level, we find that both male and female population upto the age group 10-14 is practically 'never married'. In 15-19 age group, we find a small section among females in the 'married' category. In the 20-24 age group, the majority of the females fall under 'married' category while only a small section of males are 'married'. Widows in small ratios (of over 0.10 per cent) are observed among females from the age-group 25-29 onwards, whereas widowers among males are found to be over 0.10 per cent only in 45-49 age group and above. The extent of 'divorced or separated' is insignificant. Variations in regard to marital status among the population of different age groups are not very large in the case of the districts as may be observed in the map. Higher ratios of unmarried males and females in the age groups 20-24 and above are seen in Madras and Kanniyakumari districts when compared with the other districts.

The percentages of males and females in the five broad age groups of 0-4, 5-14, 15-34, 35-59 and 60+ to total population are furnished for state and districts in the following statement:

Unit	Sex	Percentage of population in age-group				
	M-Males F-Females	0-4	5-14	15-34	35-59	60+
1	2	3	4	5	6	7
TAMIL NADU	M	6.59	12.49	15.95	12.61	2.92
	F	6.49	12.21	16.27	11.65	2.82
Madras	M	6.05	11.74	19.82	12.46	2.46
	F	5.86	11.41	17.54	10.08	2.58
Chengalpattu	M	6.87	12.64	16.37	12.63	2.83
	F	6.78	12.33	16.06	10.95	2.54
North Arcot	M	6.94	12.90	15.35	12.59	2.95
	F	6.85	12.62	15.65	11.48	2.67
South Arcot	M	7.13	12.43	15.31	13.06	2.85
	F	6.99	12.26	15.98	11.64	2.35
Dharmapuri	M	7.22	14.11	14.57	11.75	3.13
	F	7.17	13.92	14.90	10.41	2.82
Salem	M	6.19	12.48	16.58	12.56	3.13
	F	5.98	12.09	16.33	11.67	2.99
Coimbatore	M	5.69	12.13	17.09	13.00	3.19
	F	5.56	11.89	16.60	11.76	3.09
Nilgiris	M	6.74	13.61	17.33	11.74	2.01
	F	6.64	13.57	17.19	9.46	1.71
Madurai	M	6.87	12.68	15.76	12.51	2.54
	F	6.74	12.36	16.24	11.76	2.54
Tiruchirapalli	M	6.50	11.95	15.68	13.16	2.92
	F	6.46	11.64	16.27	12.51	2.91
Thanjavur	M	6.43	12.42	15.44	12.85	3.00
	F	6.33	12.21	16.40	12.08	2.84
Ramanathapuram	M	6.96	12.60	14.48	12.14	2.79
	F	6.95	12.33	16.18	12.51	3.06
Tirunelveli	M	6.64	12.30	14.50	12.23	3.30
	F	6.61	11.91	16.48	12.50	3.53
Kanniyakumari	M	6.57	12.67	16.92	11.42	3.12
	F	6.43	12.25	16.87	10.74	3.01

In a diagram below the main map, the population and percentages of rural and urban population in the five age-groups, 0-4, 5-14, 15-34, 35-59 and 60+ with

suitable divisions for never married, married, widowed and others are represented for the state.



CHANGE IN SEX AND AGE STRUCTURE, 1961-71

This map shows the variations in the age and sex composition of the population between the 1961 and 1971 Census for the state at district level. Pyramids showing the percentage of males and females separately for each of the five age groups from 0-4 to 55-59 are prepared for the 1961 Census and also for the 1971 Census which are superimposed. Hatchings to distinguish the following categories of the population are also made in the diagrams: (i) infants (ii) boys and girls (iii) young men and women (iv) middle aged men and women and (v) old men and women. The colour portrayal is made to show the position as at the 1971 Census. The diagram helps us to know the extent of increase/decrease in the percentage of males or females in the different age-groups during the decade 1961-71.

Considering the state as a whole, the percentage of males as well as females in the youngest age-group of 0-4 years to the total population has declined in 1971 when compared to 1961. Decline in the proportion is noticed for both males and females, with a higher decline under females. In the subsequent age groups of 5-9, 10-14 and 15-19, the percentages in 1971 are more when compared to 1961. In the age-group of 20-24, while the percentage for males shows an increase during 1961-71 the female ratio has declined. In the next two age-groups of 25-29 and 30-34, the population percentages show a fall in 1971 over 1961 for both males and females. Increase and decrease in percentages are observed alternately for age-groups from 30-34 onwards for both the sexes.

Comparatively more decrease in the percentage of population of 0-4 age-group is noticed in Madras, Salem, Coimbatore, Nilgiris and Kanniyakumari districts than in other districts. The districts which have not recorded substantial variation in the proportion of population of this age-group are Tiruchirapalli, Rama-

nathapuram and Tirunelveli. The decrease in the ratio of population in the lowest age-group, which has occurred in many districts, is accounted for by increase in the higher age-groups. Kanniyakumari district is unique in that it has recorded comparatively steeper percentage decrease in the first three age-groups of 0-4, 5-9 and 10-14 and these are made up by increased population percentages of young men and women, particularly in the age-groups of 15-19 and 20-24.

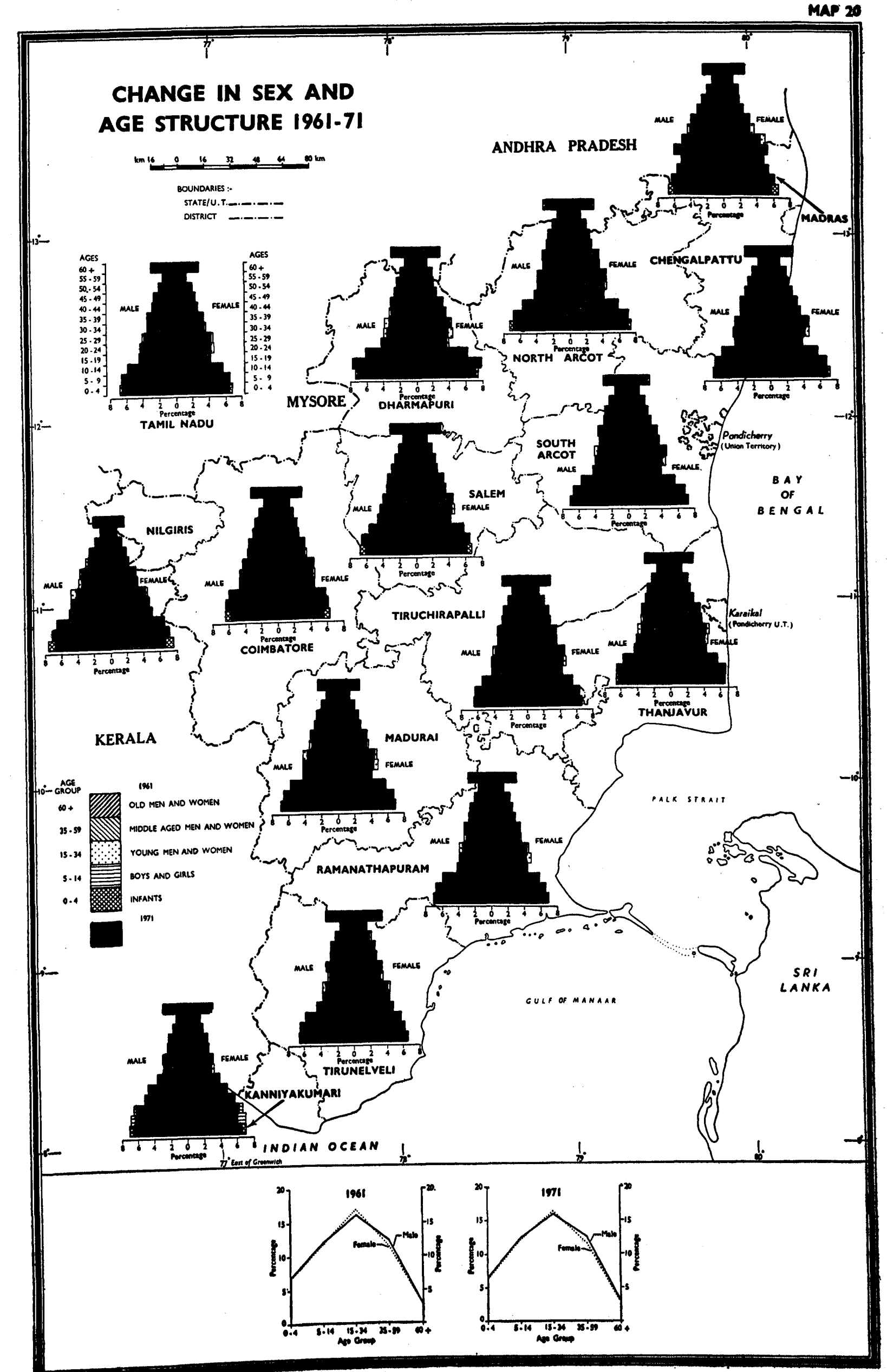
Population percentage in the highest range of 60 years and above has shown increase in 1971 at the state level and this is more pronounced in the case of males than females. This may be due to a comparatively higher life expectancy at the older ages in the recent years. In the same way, the decreasing ratio at the lower ages in 1971 may to a certain extent be adduced to the family planning measures.

In many districts, the increased percentage in the highest two age-groups is apparent from the diagram. The increase in ages 60 and above in 1971 over 1961 Census is very much significant in Madras both for males and females. The three districts which have recorded lower percentages of population in the highest age-group (60 years and above) in 1971 as compared to 1961 are Chengalpattu, North Arcot and South Arcot. A higher reduction in the percentage of females of 20-24 in 1971 over 1961 is noticed in Chengalpattu, Dharmapuri and Ramanathapuram districts.

The percentage distribution of the population in the state and districts for 1961 and 1971 in the five broad age-groups of 0-4, 5-14, 15-34, 35-59 and 60+ are presented below. Data on 'age not stated' returned in both the 1961 and 1971 Censuses have been excluded for purposes of this map as also for the statement below:

Unit	1961					1971				
	Percentage of population in ages					Percentage of population in ages				
	0-4	5-14	15-34	35-59	60+	0-4	5-14	15-34	35-59	60+
1	2	3	4	5	6	7	8	9	10	11
TAMIL NADU	13.69	23.91	33.01	23.79	5.60	13.08	24.70	32.22	24.26	5.74
Madras	13.24	22.99	37.58	22.08	4.11	11.91	23.15	37.36	22.54	5.04
Chengalpattu	14.16	23.38	33.08	23.52	5.86	13.65	24.97	32.43	23.58	5.37
North Arcot	14.65	24.44	31.57	23.19	6.14	13.79	25.52	31.00	24.07	5.62
South Arcot	14.32	23.32	32.22	24.54	5.60	14.12	24.69	31.29	24.70	5.20
Dharmapuri	14.82	26.23	31.47	21.84	5.64	14.39	28.03	29.47	22.16	5.95
Salem	13.66	24.32	33.11	22.97	5.94	12.17	24.57	32.91	24.23	6.12
Coimbatore	12.65	24.10	33.72	23.49	6.04	11.25	24.02	33.69	24.76	6.28
Nilgiris	15.23	26.09	34.74	20.68	3.26	13.38	27.18	34.52	21.20	3.72
Madurai	13.94	24.00	33.63	23.67	4.76	13.61	25.04	32.00	24.27	5.08
Tiruchirapalli	13.03	22.67	33.41	24.35	5.54	12.96	23.59	31.95	25.67	5.83
Thanjavur	13.16	23.41	32.89	25.00	5.54	12.76	24.63	31.84	24.93	5.84
Ramanathapuram	13.95	23.59	32.71	24.33	5.43	13.91	24.93	30.66	24.65	5.85
Tirunelveli	13.06	24.06	31.95	24.47	6.46	13.25	24.21	30.98	24.73	6.83
Kanniyakumari	14.06	27.14	31.34	21.92	5.54	13.00	24.92	33.79	22.16	6.13

The percentage distribution of the male and female population of Tamil Nadu in the five age-groups is depicted graphically below the main map.



MAP 21

YOUTHFULNESS OF POPULATION, 1971

This map shows the proportion of population in age group 5-14 to the total population of the state/district in five ranges. The ranges have been distinguished by different grades of hatching, depending on high or low values of the proportion of youthfulness.

Youthfulness of population of a region or district indicates the manpower potential of future years. The need for educational/employment planning is governed by manpower growth. Out of the five ranges shown, three are above the state average.

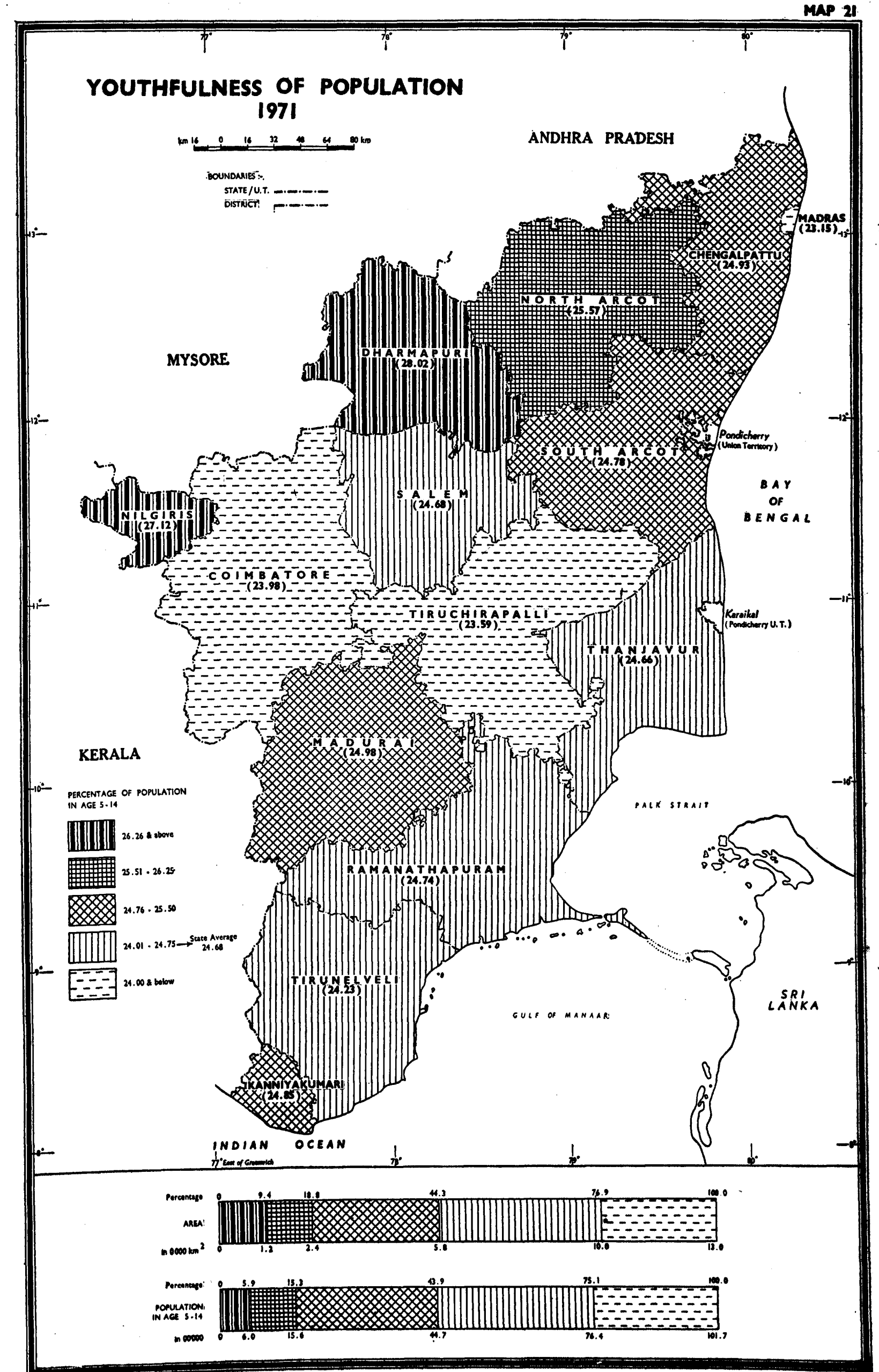
One-fourth of the state's population is young (age group 5-14). Nine out of the 14 districts of the state have youthful populations above the state average. The percentage values vary from 24.74 in Ramanathapuram to 28.02 in Dharmapuri. Three districts among the nine have very nearly the same percentage as that of the state. Five districts show proportions below the state average, the range being 23.15 in Madras to 24.66 in Thanjavur. Out of these five, Thanjavur and Tirunelveli are close to the state's proportion.

The north-eastern districts of Chengalpattu and South Arcot and the north-western districts of North Arcot and Dharmapuri have a higher potential in terms of manpower. In the central region comprising of Tiruchirapalli and Coimbatore, the youthful population is much smaller than the state's average. The metropolitan city district of Madras has a very low percentage of youthful population. Perhaps because of jobs in services and industries, a substantial quantum of population in ages 15 and above move into the three districts, thus lowering the proportion of the youthful population.

The total population, population in age-group 5-14 and the percentage of youthful population to total population are given below:

Unit	Total Population	Population in age 5-14	% of youthful population
1	2	3	4
TAMIL NADU	41,199,168	10,169,894	24.68
Madras	2,469,449	571,582	23.15
Chengalpattu	2,907,599	724,725	24.93
North Arcot	3,755,797	960,439	25.57
South Arcot	3,617,723	896,440	24.78
Dharmapuri	1,677,775	470,103	28.02
Salem	2,992,616	738,428	24.68
Coimbatore	4,373,178	1,048,544	23.98
Nilgiris	494,015	133,982	27.12
Madurai	3,938,197	983,846	24.98
Tiruchirapalli	3,848,816	907,797	23.59
Thanjavur	3,840,732	947,057	24.66
Ramanathapuram	2,860,207	707,615	24.74
Tirunelveli	3,200,515	775,525	24.23
Kanniyakumari	1,222,549	303,811	24.85

Two bar graphs are shown—One represents the geographical area and the other gives the youthful population of age 5-14 of the districts covered by each of the ranges shown in the map. Cumulative percentages and absolute figures are printed on the upper and lower sides of the bar diagrams.



MAP 22

CHANGE IN YOUTHFULNESS OF POPULATION 1961-1971

Two maps showing percentages of population in younger age group of 5-14 as at 1961 and 1971 are presented side by side here. The variations in the proportion of youth belonging to ages 5-14 during the decade is brought out in the map. An increase in this ratio normally represents increased birth rate as the population of age group 5-14 in 1971 Census represents the surviving population of 0-4 ages of 1961 Census along with the births in the last five years (i.e. 1966 to 1971). An increase in the per cent also indicates a temporary increase in dependency ratio and an expansion in the work-force potential for the next decade.

The percentage of youth of age group 5-14 for the State stood at 23.92 in 1961 and has increased marginally to 24.68 in 1971. While the two districts of Kanyakumari and Coimbatore have recorded lower ratios of youth in 1971 as compared to 1961, all other districts have improved their percentages. Among the 12 districts which have higher percentages in 1971, 9 have higher increases in the ratio than for the State. The backward district of Dharmapuri (whose population

has gone up during the decade by a very high rate of 25.94 per cent) has the highest increase in the percentage of youth from 26.23 to 28.02 per cent. The other district with pronounced increase in the percentage of population of age group 5-14 (by over one and half per cent) is Chengalpattu. Madras and Tirunelveli have recorded marginal increases in ratio while it has declined in Coimbatore.

The population of age-group 5-14 in Tamil Nadu has gone up from 8.06 million in 1961 to 10.17 million in 1971 and this represents an increase of 26.22 per cent over 1961. This increase is far higher than the general increase in the State's population, viz. 22.30 per cent. Such a sharp increase portends an increased labour force availability in the decades ahead, for absorbing which an employment-oriented industrial and manpower planning is to be envisaged well in advance.

The population in age group 5-14 for State and districts and also their percentages to total population is given in the following statement.

Unit	Population of age group 5-14 in		percentage of population in age group 5-14 to total population	
	1971	1961	1971	1961
1	2	3	4	5
TAMIL NADU	10,169,894	8,057,402	24.68	23.92
Madras	571,582	397,472	23.15	22.99
Chengalpattu	724,725	513,423	24.93	23.38
North Arcot	960,439	768,951	25.57	24.44
South Arcot	896,440	711,009	24.78	23.33
Dharmapuri	470,103	349,392	28.02	26.23
Salem	738,428	601,285	24.68	24.33
Coimbatore	1,048,544	857,274	23.98	24.10
Nilgiris	133,982	106,757	27.12	26.08
Madurai	983,846	770,536	24.98	23.99
Tiruchirapalli	907,797	722,932	23.59	22.66
Thanjavur	947,057	759,946	24.66	23.41
Ramanathapuram	707,615	570,844	24.74	23.57
Tirunelveli	775,525	657,033	24.23	24.06
Kanniyakumari	303,811	270,548	24.85	27.14

Two bar diagrams showing the geographical area and population in ages 5-14 of districts falling in the ranges from high to low are given below each of the

maps of 1961 and 71. The population of 5-14 ages and the area in km² are given in actual figures and percentages in these diagrams.

MAP 23

MALES IN WORKING AGE 15-59, 1971

This map shows the percentage of males in the working age group 15-59 to total male population in the districts. The proportion of males in age group 15-59 is split into six different ranges and the ranges are shown by different grades of hatching. Three ranges have values above the state's average and three below. Further, the total male population of the district has been shown by a circle proportionate to the population and, in that circle, the proportion of male population in working age 15-59 is shown by the shaded sector. The total male population of the district is given on top of the circle and the percentage of working age males inside the shaded sector.

In Tamil Nadu, the average percentage of male population in working age 15-59 to total male population is 56.47. All the districts have percentages above 50, the lowest being 51.84 in Dharmapuri and the highest 61.43 in Madras. Four districts have a higher percentage than the state's average while eight districts have a lower percentage. Chengalpattu and Nilgiris have the same proportions which are more or less similar to the state's average. Out of the eight districts which show lower proportions than the state's average, Madurai and Thanjavur occur in the same range where the state's average lies. All the four districts which show higher percentages than the state's average are in distinct ranges.

A low proportion of males in working age is seen in a contiguous region comprising North Arcot and Dharmapuri in the north-west and in South Arcot and in another region covering the southern coastal districts of Ramanathapuram, Tirunelveli and Kanniyakumari. The central inland region comprising Tiruchirapalli, Coimbatore and Salem shows a higher proportion of males in working age.

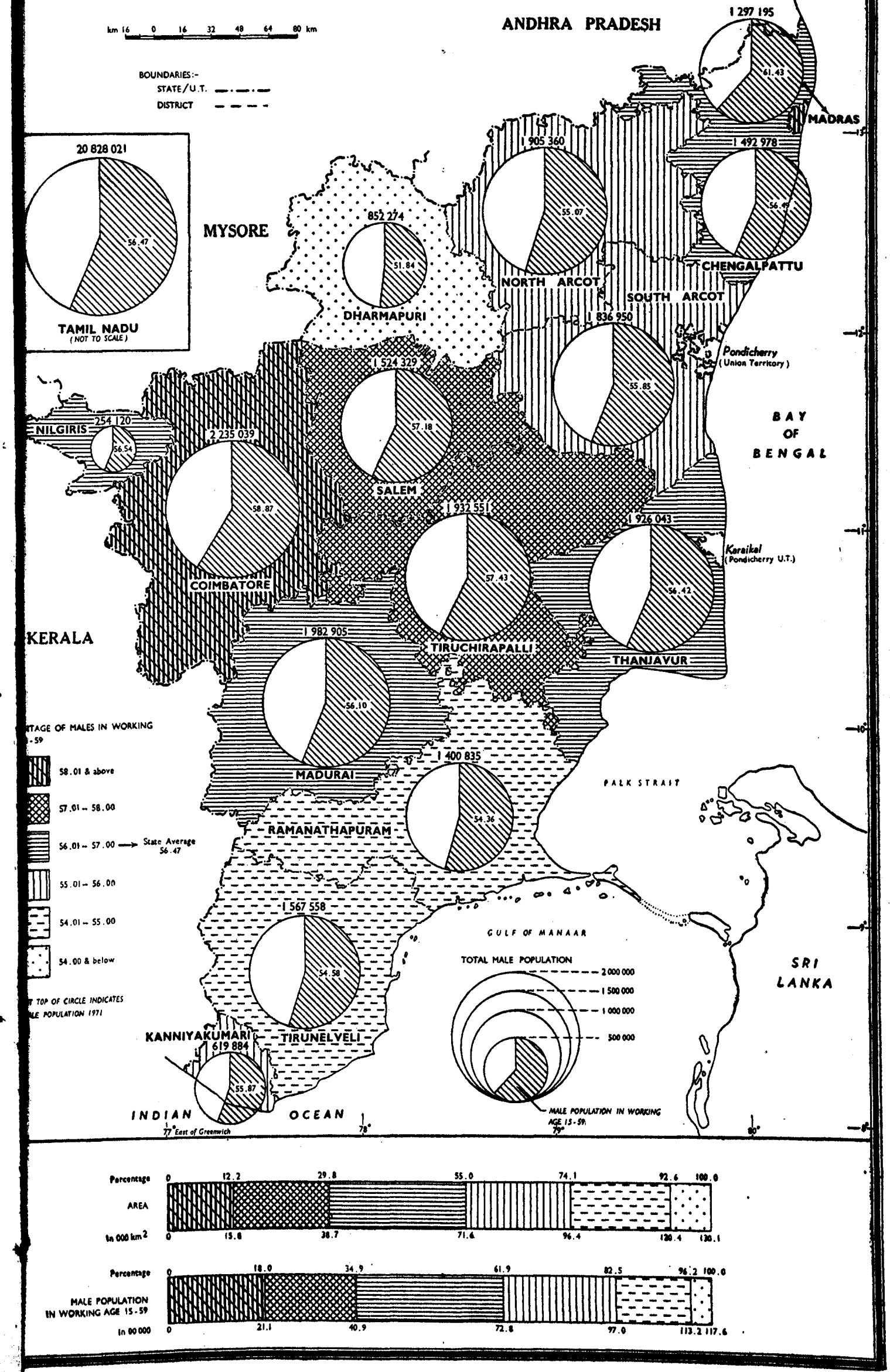
The total male population, males in age group 15-59 and the percentage of males in age 15-59 to total

male population for the state and districts are given below.

Unit	Total male population	Male population in age group 15-59	% of males (15-59) to total male population
1	2	3	4
TAMIL NADU	20,828,021	11,760,674	56.47
Madras	1,297,195	796,892	61.43
Chengalpattu	1,492,978	843,314	56.49
North Arcot	1,905,360	1,049,333	55.07
South Arcot	1,836,950	1,025,978	55.85
Dharmapuri	852,274	441,784	51.84
Salem	1,524,329	871,538	57.18
Coimbatore	2,235,039	1,315,791	58.87
Nilgiris	254,120	143,672	56.54
Madurai	1,982,905	1,112,436	56.10
Tiruchirapalli	1,932,043	1,109,919	57.43
Thanjavur	1,926,043	1,086,614	56.42
Ramanathapuram	1,400,835	761,452	54.36
Tirunelveli	1,567,558	855,596	54.58
Kanniyakumari	619,884	346,355	55.87

At the bottom of the map, two bar graphs are presented. The top bar represents the geographical area of the districts coming under each range of proportion of males in the working age group. The lower bar represents the male population in age group 15-59 of the districts covered in each range mentioned above. Percentage and absolute figures are given on the upper and lower sides of the bars.

MALES IN WORKING AGE 15-59
1971



MAP 24

CHANGE IN MALES IN WORKING AGE 15-59, 1961-71

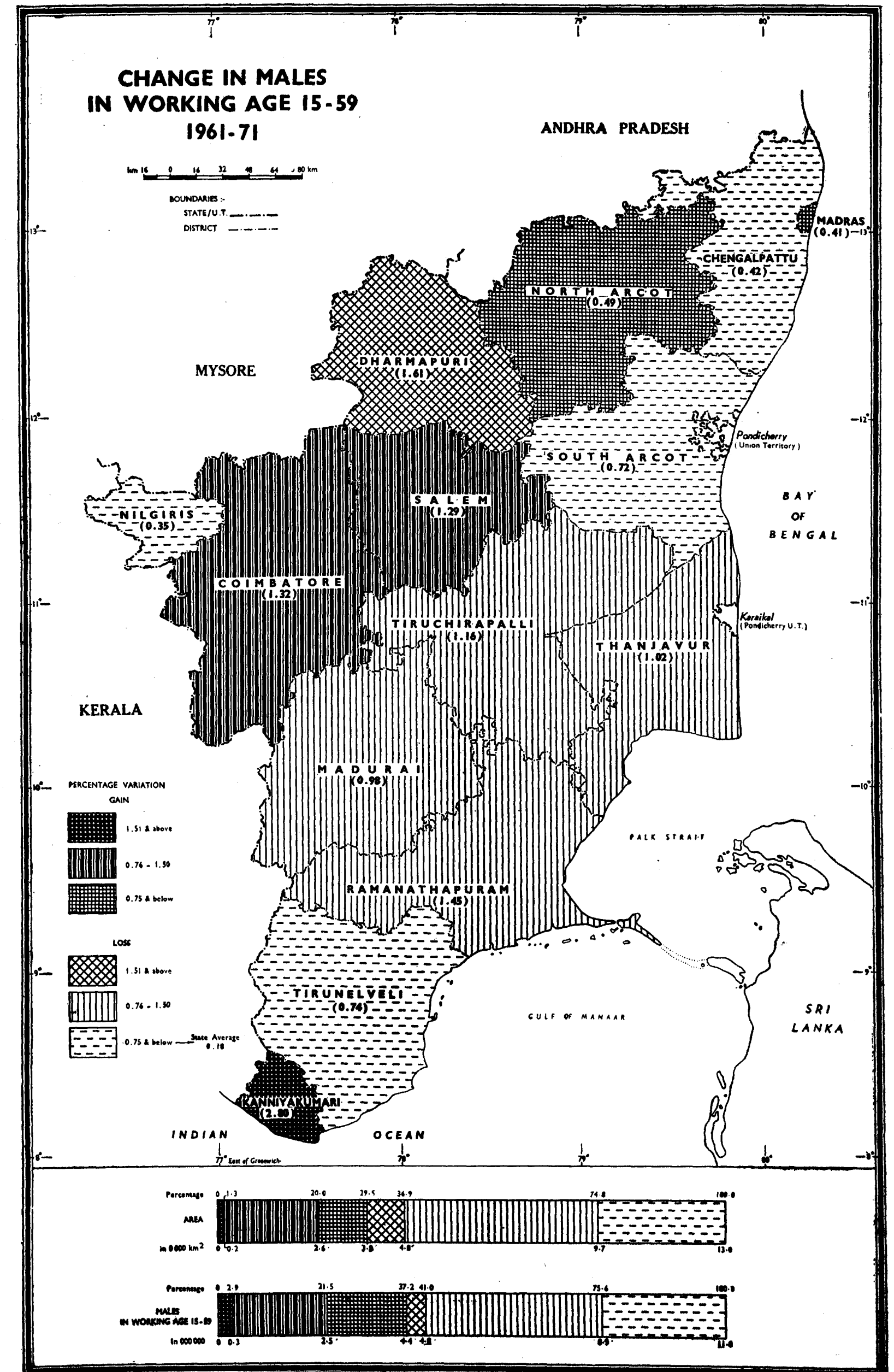
This map depicts variations in the male working force in districts during 1961-71 Censuses. The age-group 15-59 is considered as the working age-group. The percentage of males in the working ages of 15-59 to total males has been worked out for the two censuses and the difference in the same is portrayed here. A positive figure (gain) represents an increase in the ratio in 1971 over 1961 and a negative figure represents a loss.

For the state as a whole, a net loss of 0.18 per cent is observed, which indicates a marginal decline in the percentage of males in working age during 1961 and 1971. Barring five districts, the rest have registered loss in male work-force. Kanniyakumari district has the highest gain (2.80 per cent) among all districts, Coimbatore and Salem districts have registered increases of over 1.25 per cent. The other two districts of Madras and North Arcot show a small increase in the male work force of about half-a-per cent. Decline in the ratio is the highest in the district of Dharmapuri (-1.61). Four districts showing losses fall under the two ranges, viz. '0.76 to 1.50' and '0.75 and below'. Nilgiris (-0.35) and Chengalpattu (-0.42) districts have registered very marginal negative percentages.

The male population of 15-59 in 1971 and 1961 and the variations in their respective percentages to total population are given below for the state and districts.

Unit	Males in working ages 15-59		variation in their percentage to total males
	1971	1961	
1	2	3	4
TAMIL NADU	11,760,674	9,579,313	-0.18
Madras	796,892	555,134	+0.41
Chengalpattu	843,314	637,703	-0.42
North Arcot	1,049,333	863,482	+0.49
South Arcot	1,025,978	868,854	-0.72
Dharmapuri	441,784	361,782	-1.61
Salem	871,538	696,887	+1.29
Coimbatore	1,315,791	1,041,440	+1.32
Nilgiris	143,672	121,641	-0.35
Madurai	1,112,436	917,466	-0.98
Tiruchirapalli	1,109,919	930,752	-1.16
Thanjavur	1,086,614	924,819	-1.02
Ramanathapuram	761,452	656,063	-1.45
Tirunelveli	855,596	735,920	-0.74
Kanniyakumari	346,355	267,370	+2.80

Two horizontal bar diagrams in the map show the area of the districts as also the male population of 15-59 age-group, falling under the six ranges presented in the main map.



MAP 25

FEMALES IN WORKING AGE 15-59, 1971

This map depicts data on the females of working age 15-59 for the districts. The districts have been categorised under six ranges.

Females in working age in the State form 56.49 per cent of total female population. The percentages in the 14 districts of the State vary between 51.41 in Dharmapuri district and 58.17 in Madras. Female work-force is the highest in Madras city. There are six districts which have a higher ratio than the State average. Besides Madras, the other districts which have high percentages of 57.06 to 57.99 are all contiguous from west to east, and form a region in the central part of the

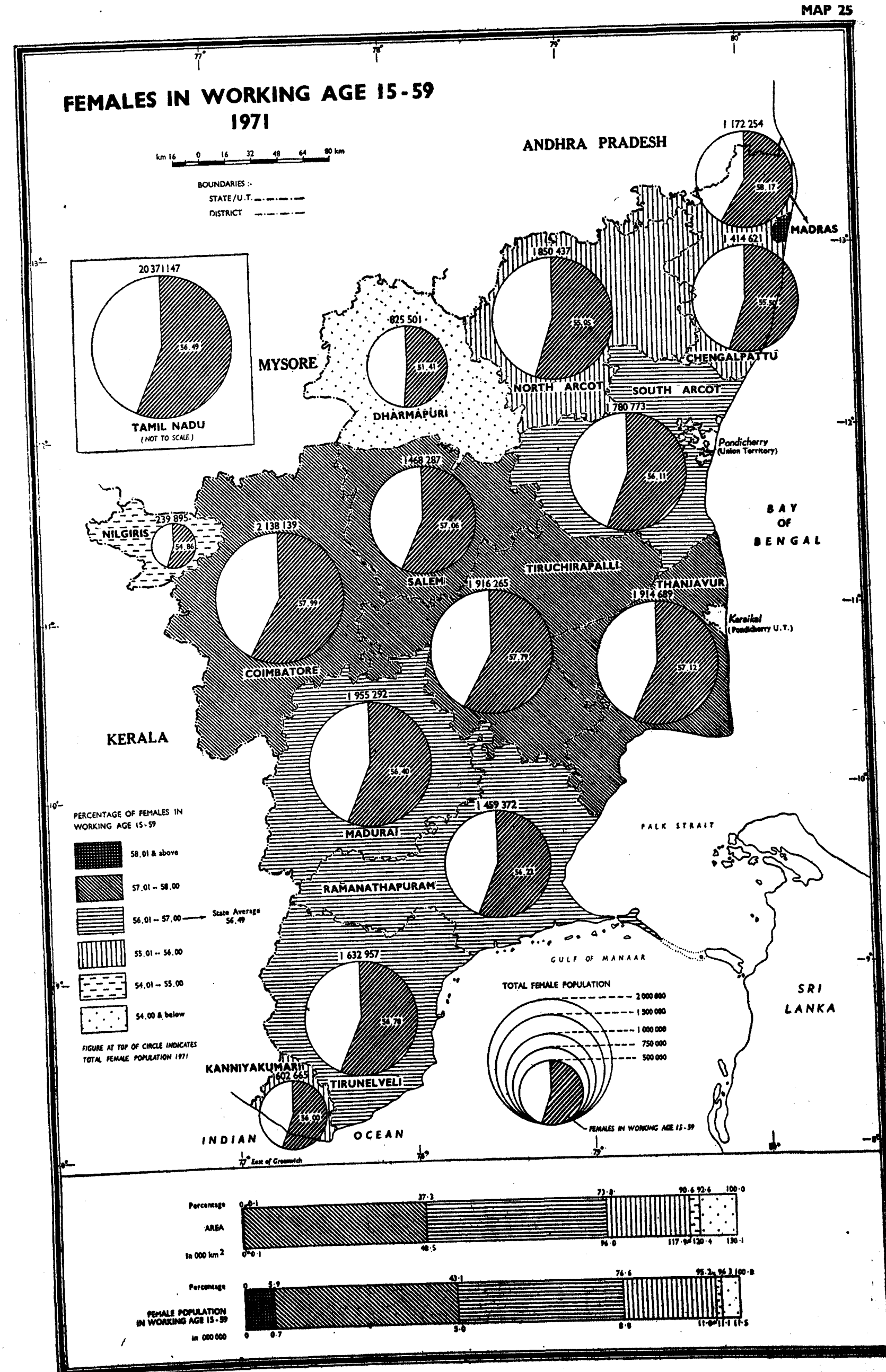
State. These districts are Coimbatore, Salem, Tiruchirappalli and Thanjavur. The districts with very low ratios are Dharmapuri (51.41) and Nilgiris (54.86). It is interesting to see that excepting the three districts of Madras, Dharmapuri and Nilgiris all the other 11 districts fall within the percentage range of 55.05 to 57.99. The districts with very large number of females in ages 15-59 (of over one million) are North Arcot, Coimbatore, Madurai, Tiruchirappalli and Thanjavur.

The female population of the State and districts as also the percentage of female population in ages 15-59 are presented below:—

Unit	Female Population		Per cent
	All ages	15-59	
1	2	3	4
TAMIL NADU	20,371,147	11,507,660	56.49
Madras	1,172,254	681,918	58.17
Chengalpattu	1,414,621	785,058	55.50
North Arcot	1,850,437	1,018,590	55.05
South Arcot	1,780,773	999,173	56.11
Dharmapuri	825,501	424,423	51.41
Salem	1,468,287	837,858	57.06
Coimbatore	2,138,139	1,239,955	57.99
Nilgiris	239,895	131,618	54.86
Madurai	1,955,292	1,102,833	56.40
Tiruchirappalli	1,916,265	1,107,440	57.79
Thanjavur	1,914,689	1,093,644	57.12
Ramanathapuram	1,459,372	820,466	56.22
Tirunelveli	1,632,957	927,193	56.78
Kanniyakumari	602,665	337,491	56.00

There are two horizontal bar charts at the bottom of the map. The first shows the area in km² of the districts falling in the six ranges given in the main map. The actual female working age-group population of the

districts of these ranges are marked in the other diagram. Cumulative figures and percentages are indicated in the bar diagrams.



MAP 26

CHANGE IN FEMALES IN WORKING AGE 15-59, 1961-71

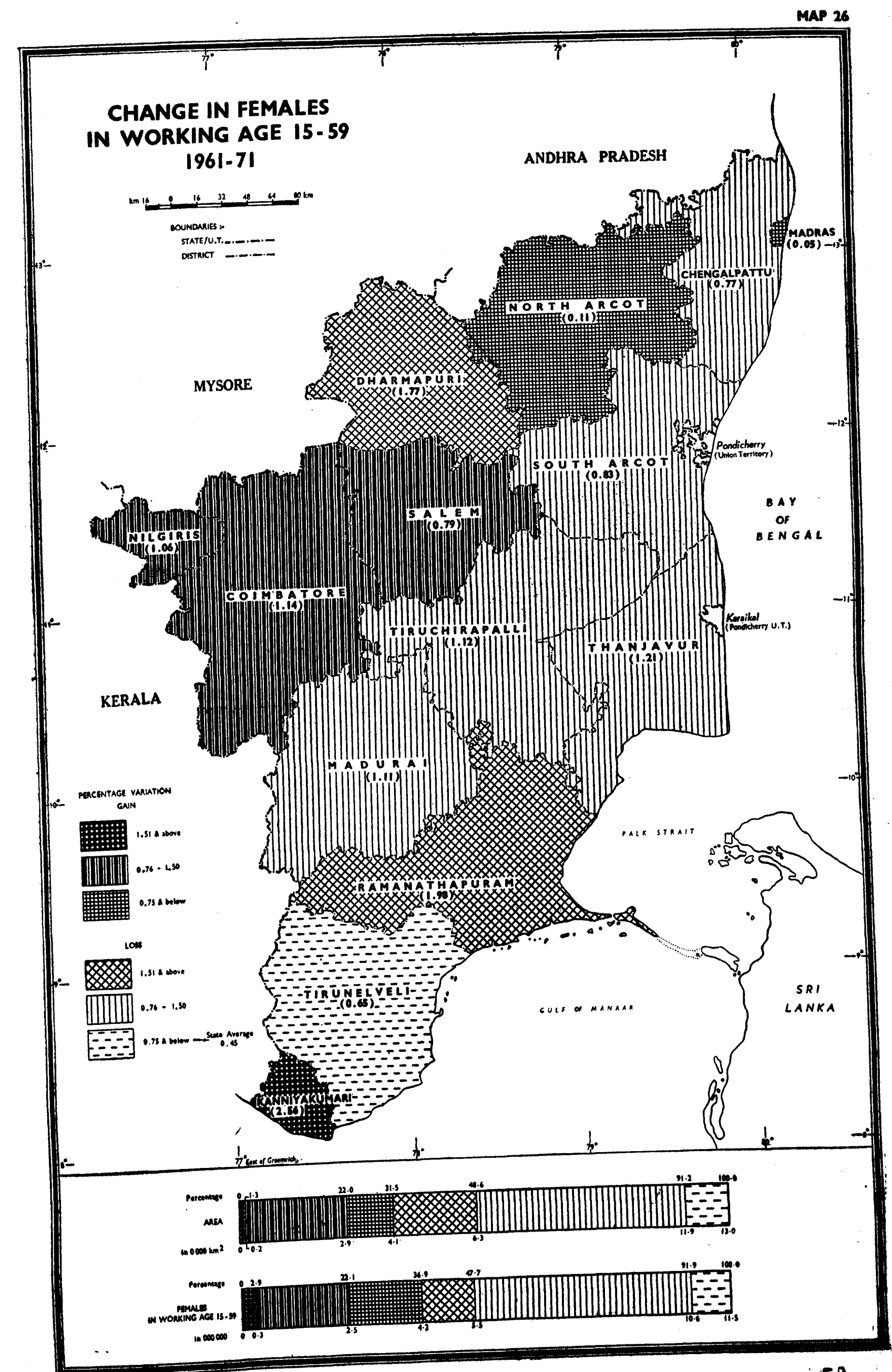
The map portrays the variation in 1971 in the percentage of females in the working age-group of 15-59 the total female population as compared to 1961. The variation represents increase or decrease in the extent of females in the specific age-group.

In the State as a whole, there is a shortfall (-0.45%) the ratio of females of 15-59 in 1971 with reference to the corresponding ratio in 1961. Of the 14 districts, six districts show positive percentage variation (gain) while the others show negative variation (loss). Kanniyakumari district has recorded the highest gain of 2.56 and Madras has the least increase of 0.05 per cent. Negative variations in the percentages of females in working ages are very high in Ramanathapuram and Dharmapuri districts. The district with very low negative variation is Tirunelveli (-0.65). Even in the districts which show losses, the actual number of females in the age 15-59 is more in 1971 than in 1961. It is only the proportion of such females to the total female population that has declined. There are over one million females in working ages in 1971 in each of the districts of North Arcot, Coimbatore, Madurai, Tiruchirapalli and Thanjavur, while no district had over a million females of these ages in 1961.

Data on the number of females of 15-59 in the State and districts in 1961 and 1971 and the extent of variation in their respective percentages to the total female population are given below:—

Unit	Females in working ages 15-59		Variation in their percentage to total females, 1961-71
	1971	1961	
1	2	3	4
TAMIL NADU	11,507,660	9,551,586	-0.45
Madras	681,918	476,303	+0.05
Chengalpattu	785,058	605,321	-0.77
North Arcot	1,018,590	859,499	+0.11
South Arcot	999,173	860,929	-0.83
Dharmapuri	424,423	348,528	-1.77
Salem	837,858	689,267	+0.79
Coimbatore	1,239,955	993,738	+1.14
Nilgiris	131,618	105,184	+1.06
Madurai	1,102,833	922,557	-1.11
Tiruchirapalli	1,107,440	943,490	-1.12
Thanjavur	1,093,644	954,026	-1.21
Ramanathapuram	820,466	725,113	-1.98
Tirunelveli	927,193	804,055	-0.65
Kanniyakumari	337,491	263,576	+2.56

Two horizontal bar diagrams shown below the map give the area and the female population of 15-59 as in 1971, of the districts falling in the six ranges presented in the main map. The actual area and the females of working age in the various ranges are shown in actual figures as also percentages, in cumulative terms.



MAP 27

URBAN MALES IN WORKING AGE 15-59, 1971

The map shows male population in the working ages of 15-59 in the urban areas. Proportion of urban males in the working age-group 15-59 to the total urban male population has been worked out and based on the ratios, all the districts have been shaded under six broad ranges. The strength of the total urban population is also represented in proportionate circles inside each district and the extent of working age population among them is shown within them.

In the State as a whole, it is seen that 58.25 per cent of urban males are in the working age-group. Males in the working ages, particularly in the younger ages, are generally attracted in large numbers to urban areas due to better avenues of employment and hence, the ratio is significantly higher. The ratio of working age population in the districts varies from 61.43 per cent in Madras to 54.49 in Dharmapuri district. Madras is highly industrialised apart from being the headquarters of the State and a leading commercial and trading centre. On the other hand Dharmapuri is the least urbanised and industrialised. Four out of the fourteen districts have higher percentages than the State average. These are Madras, Chengalpattu, Coimbatore and Tiruchirapalli, all having industrial belts and this has probably given rise to an increase in the proportion of urban males in this working age. The districts with lower ratios (55.00 to 56.50 per cent) apart from Dharmapuri lie in the coastal belt in the east. They are South Arcot, Thanjavur, Ramanathapuram, Tirunelveli and Kanniyakumari. These districts can be categorised as agriculturo-riented.

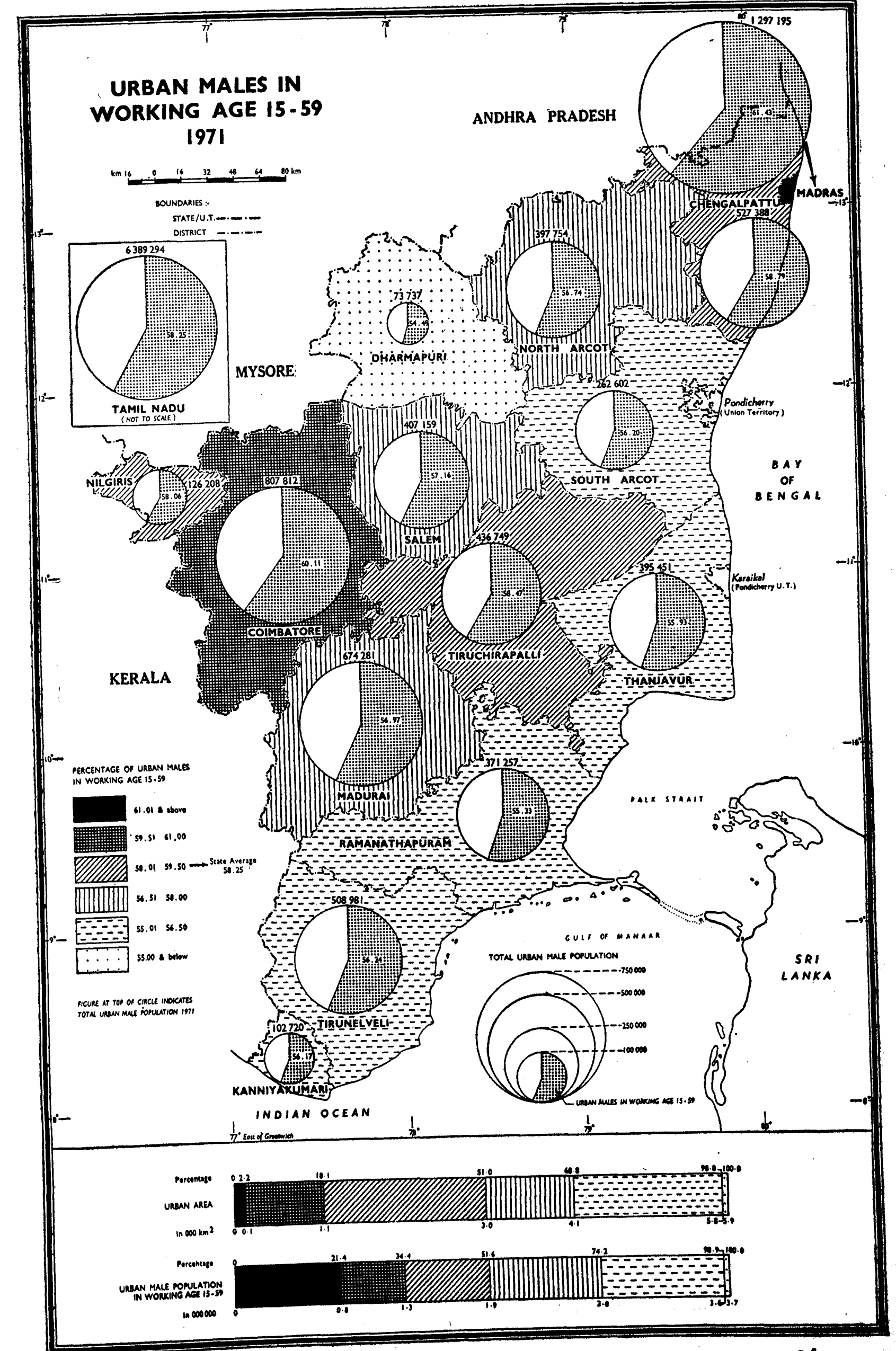
Over one-third of the State's urban males in working age are in Madras and Coimbatore Districts (34.45 per cent). Dharmapuri and Kanniyakumari

districts, where the urban population are less, have low percentage of males in the working ages.

The urban male population of the State and districts along with the corresponding males of the working age and their percentages are given below:—

Unit	Urban male population 1971		Per cent
	All ages	15-59	
1	2	3	4
TAMIL NADU	6,389,294	3,722,059	58.25
Madras	1,297,195	796,892	61.43
Chengalpattu	527,388	310,054	58.79
North Arcot	397,754	225,702	56.74
South Arcot	262,602	147,592	56.20
Dharmapuri	73,737	40,180	54.49
Salem	407,159	232,716	57.16
Coimbatore	807,812	485,606	60.11
Nilgiris	126,208	73,275	58.06
Madurai	674,281	384,132	56.97
Tiruchirapalli	436,749	255,386	58.47
Thanjavur	395,451	221,186	55.93
Ramanathapuram	371,257	205,408	55.33
Tirunelveli	508,981	286,237	56.24
Kanniyakumari	102,720	57,693	56.17

There are two horizontal bar diagrams representing the geographical area and the working age population of the districts falling under six ranges given in the main map. The actual area in km² as also the urban male population of 15-59 are given along with the percentages, from high to low range, in a cumulative manner.



MAP 28

CHANGE IN URBAN MALES IN WORKING AGE 15-59, 1961-71

This map shows the change of the percentage of males of 15-59 age-group in the urban areas of Tamil Nadu as revealed in 1971, from the corresponding percentage in 1961. Based on the 'gain' or 'loss' in percentage during the decade 1961-71, all the districts have been grouped under five broad ranges—three under 'gain' and two under 'loss'.

At the state level, we find that there were 3.72 million urban males in the working age-group of 15-59 in 1971, forming 58.25 per cent of urban males of all ages. Similar figures for 1961 are 2.65 million and 57.78 per cent. There is thus an increase of 0.47 in the percentage during 1961-71 for the state as a whole. Five out of the 14 districts have revealed a higher increase in the ratio in 1971 than that of the state. The highest variation (gain) is recorded by Coimbatore district (1.61), closely followed by the adjoining district of Salem (1.35). The other districts which have revealed gain of over one per cent are Kanniyakumari (1.25) and North Arcot (1.15). Dharmapuri district shows an increase of 0.58 in its ratio of urban males of 15-59 age-group in 1971.

Chengalpattu district (0.46) has more or less fallen in line with the general level of increase of state (0.47). Madras, Nilgiris and Madurai have recorded gains of a smaller magnitude.

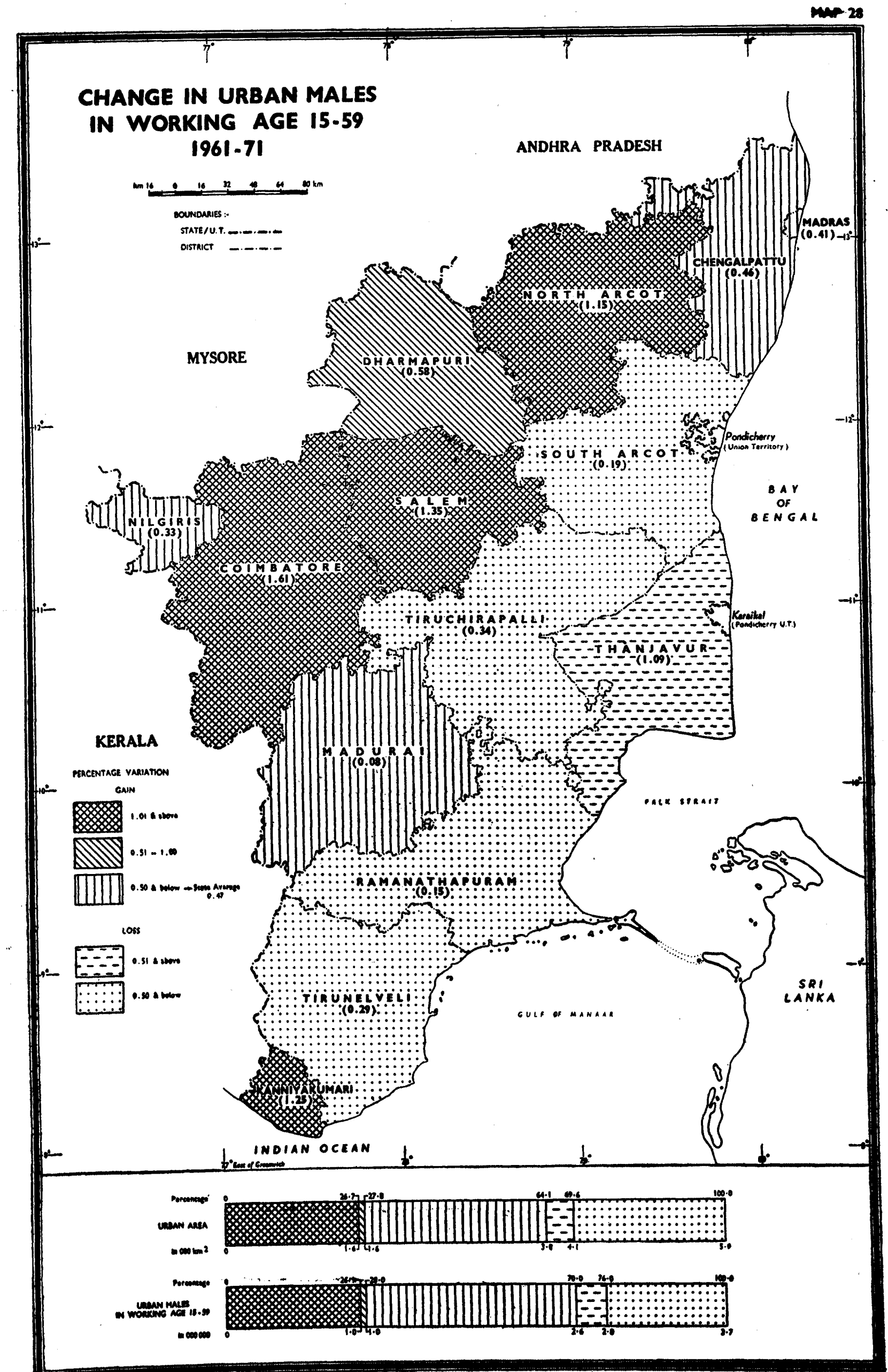
Loss in percentages in 1971 are reported in five districts of the state and these are all contiguous districts in the east coastal region. These are also predominantly agricultural districts without much industrial advancement. Thanjavur district has revealed the highest loss in the percentage to the tune of 1.09. The other districts with losses in percentages are Tiruchirapalli, Tirunelveli, South Arcot and Ramanathapuram.

Data on the male urban population of working age-group of 15-59, both in 1961 and 1971, and the variation

in their percentages to their respective urban male population of all ages are presented below for the state and the districts.

Unit	Male population in urban areas of 15-59 age-group		Decadal change in percentage of urban males of 15-59 age-group 1961-71
	1961	1971	
1	2	3	4
TAMIL NADU	3,722,059	2,646,144	+0.47
Madras	796,892	555,134	+0.41
Chengalpattu	310,054	137,131	+0.46
North Arcot	225,702	176,733	+1.15
South Arcot	147,592	112,115	-0.19
Dharmapuri	40,180	25,556	+0.58
Salem	232,716	149,133	+1.35
Coimbatore	485,606	312,849	+1.61
Nilgiris	73,275	54,582	+0.33
Madurai	384,132	293,144	+0.08
Tiruchirapalli	255,386	202,289	-0.34
Thanjavur	221,186	188,194	-1.09
Ramanathapuram	205,408	162,906	-0.15
Tirunelveli	286,237	234,905	-0.29
Kanniyakumari	57,693	41,473	+1.25

Two horizontal bar diagrams showing the area in km² and the 1971 urban males of 15-59 age-group of the districts falling in the five ranges of gain and loss (from high to low) as in map legend are drawn below the main map. The figures and percentages for the ranges are given here in a cumulative manner.



MAP 29

RURAL MALES IN WORKING AGE 15-59, 1971

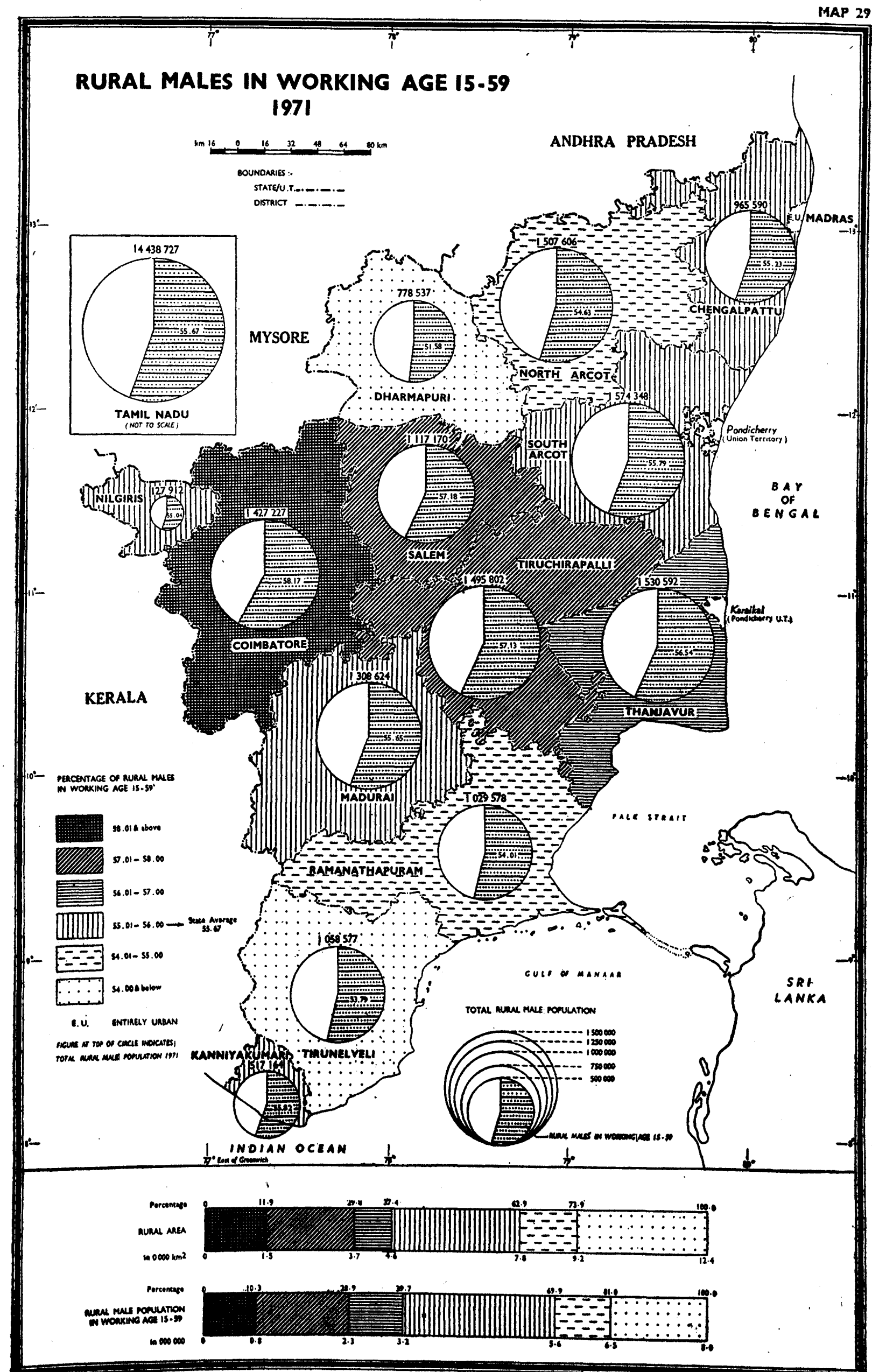
This map shows the extent of male population in the working age-group of 15-59 in the rural areas at district level. Their ratio is depicted in the pie diagram given for each district, which has been drawn in proportion to the district's size of rural male population. Barring Madras which is fully urban, the remaining 13 districts of the State have been classified under six ranges, according to their respective percentages of working males.

The percentage of rural male population in the working age-group of 15-59 is 55.67 in Tamil Nadu. The lowest percentage of 51.58 working males lies in Dharmapuri district while the highest of 58.17 is in Coimbatore. The adjoining districts to the east of Coimbatore, viz. Salem and Tiruchirapalli show a little over 57 per cent of male workers in rural areas. Thanjavur district which lies further east has 56.54 per cent. All the above four districts with high ratios are all contiguous in the central part of the State. Madurai district (55.65) more or less corresponds to the State average ratio of 55.67 while South Arcot and Kanniyakumari have slightly higher percentages of 55.79 and 55.82. Excluding these three districts, four have got ratios higher than the State average and the other six have lower ratios. The lowest ratio is in the economically under-developed Dharmapuri district (51.58 per cent) while Tirunelveli (53.79 per cent) and Ramanathapuram (54.01) have also comparatively low ratios.

Rural male population of all ages, males of 15-59 age-group in rural areas and their percentage in the districts are presented below :

Unit	Rural male population 1971		Per cent
	All ages	15-59	
1	2	3	4
TAMIL NADU	14,438,727	8,038,615	55.67
Madras	Entirely urban		
Chengalpattu	965,590	533,260	55.23
North Arcot	1,507,606	823,631	54.63
South Arcot	1,574,348	878,386	55.79
Dharmapuri	778,537	401,604	51.58
Salem	1,117,170	638,822	57.18
Coimbatore	1,427,227	830,185	58.17
Nilgiris	127,912	70,397	55.04
Madurai	1,308,624	728,304	55.65
Tiruchirapalli	1,495,802	854,533	57.13
Thanjavur	1,530,592	865,428	56.54
Ramanathapuram	1,029,578	556,044	54.01
Tirunelveli	1,058,577	569,359	53.79
Kanniyakumari	517,164	288,662	55.82

In the two bar diagrams given at the bottom of the map, the area (in km²) and working age males of rural areas of districts (in million) falling in the six ranges depicted in the main map are shown. The actual figures and the percentages are shown in these diagrams in a cumulative manner from high to low ranges.

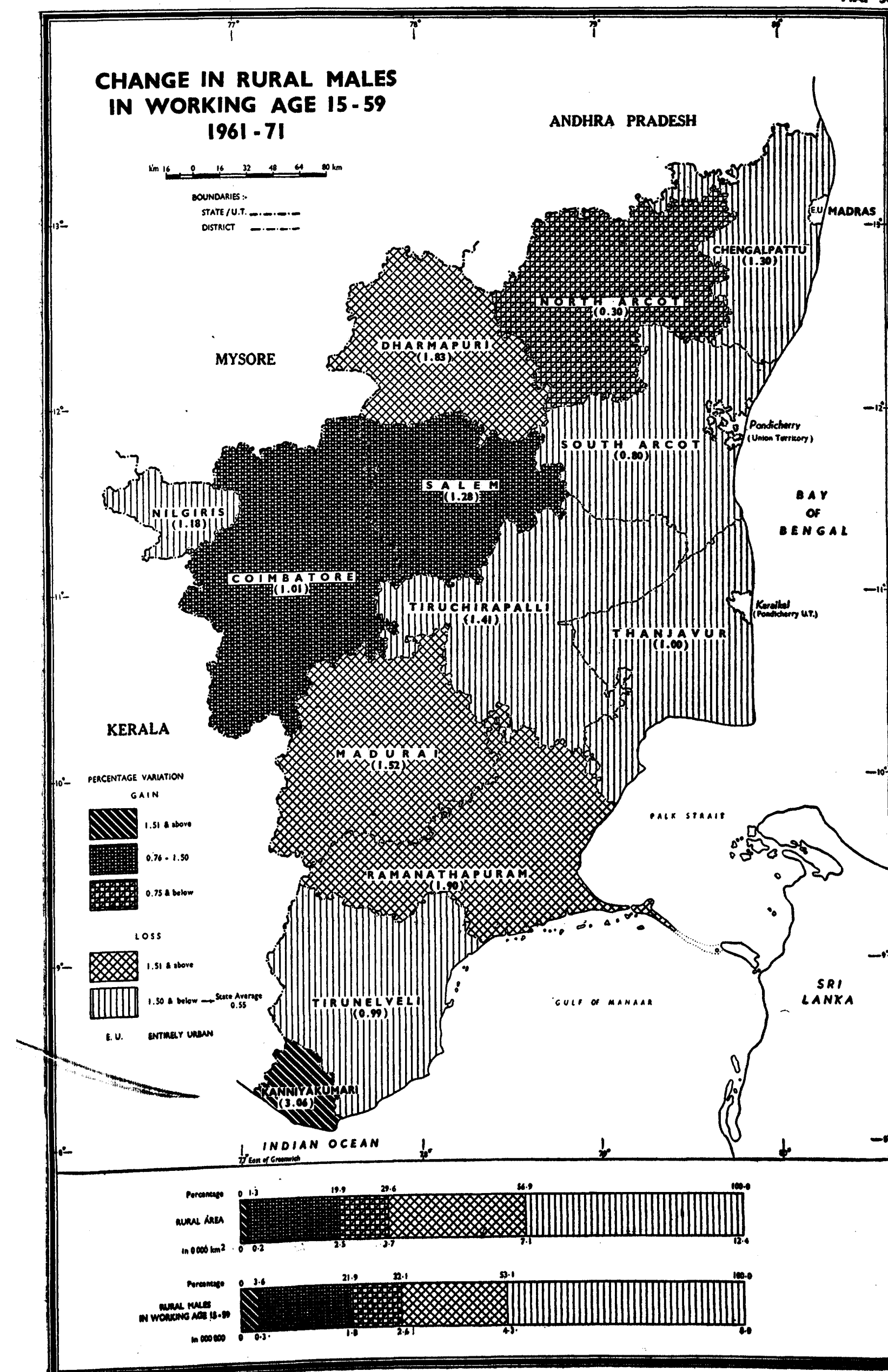


CHANGE IN RURAL MALES IN WORKING AGE 15-59 1961-71

Data on rural males in 15-59 age-group in 1961 and 1971 and the percentage variation of such population to the respective rural male population are given below for state and districts.

Unit	Rural males of 15-59 ages		Variation in per cent during 1961-71
	1971	1961	
1	2	3	4
TAMIL NADU	8,038,615	6,933,169	- 0.55
Madras	Entirely urban		
Chengalpattu	533,260	500,572	- 1.30
North Arcot	823,631	686,749	+ 0.30
South Arcot	878,386	756,739	- 0.80
Dharmapuri	401,604	336,226	- 1.83
Salem	638,822	547,754	+ 1.28
Coimbatore	830,185	728,591	+ 1.01
Nilgiris	70,397	67,059	- 1.18
Madurai	728,304	624,322	- 1.52
Tiruchirapalli	854,533	728,463	- 1.41
Thanjavur	865,428	736,625	- 1.00
Ramanathapuram	556,044	493,157	- 1.90
Tirunelveli	569,359	501,015	- 0.99
Kanniyakumari	288,662	225,897	+ 3.06

CHANGE IN RURAL MALES IN WORKING AGE 15-59 1961-71



MAP 31

URBAN FEMALES IN WORKING AGE 15-59, 1971

The map depicts variations in the proportion of females in the ages 15-59 to total female population in urban areas of the districts. Persons in these ages are economically productive and so the ratio gives an idea on the extent of labour force availability in the total population.

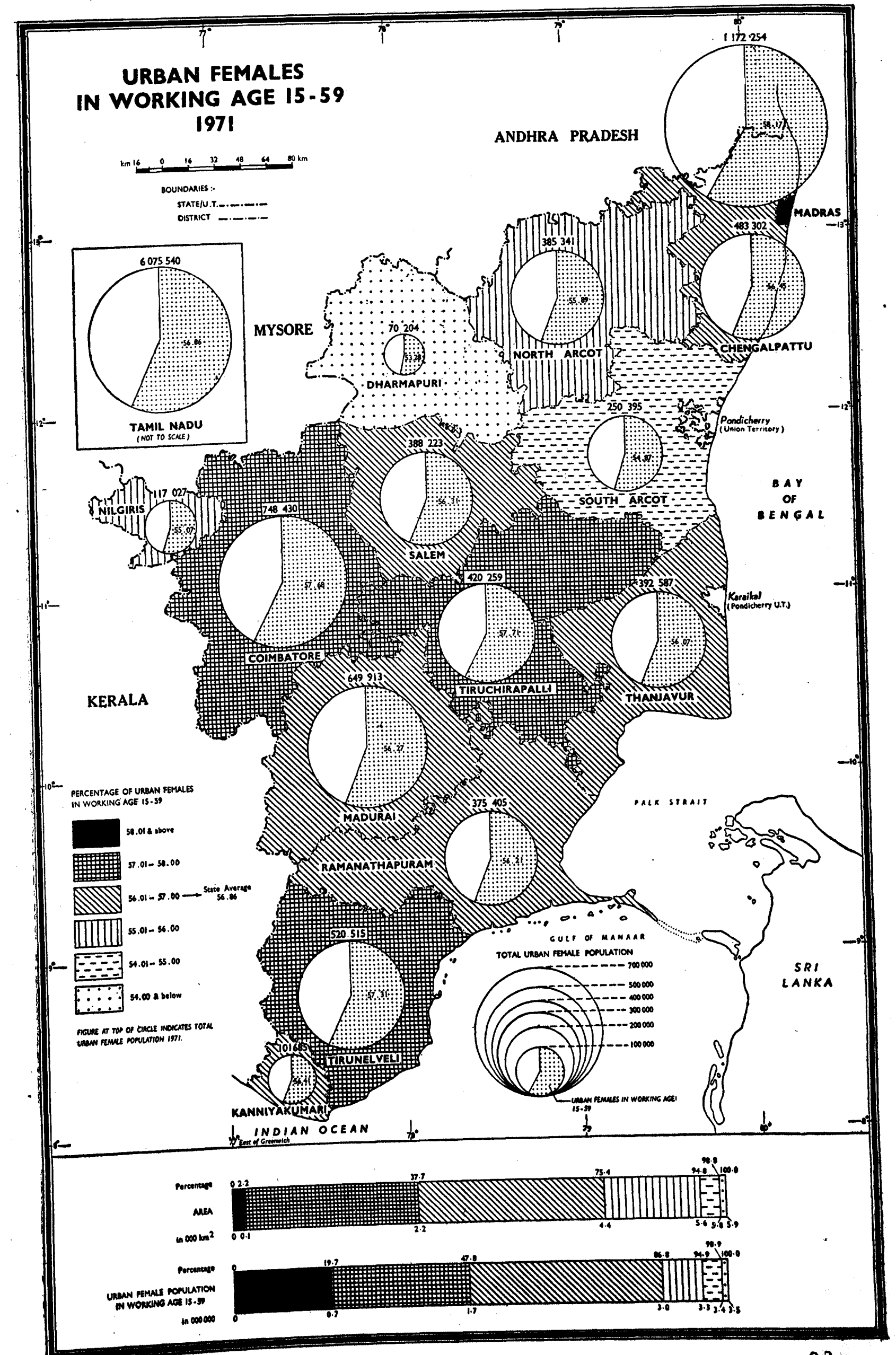
For the state as a whole, 56.86 per cent of females in urban areas are in the working age-group of 15-59 years. Only four districts have higher ratios than the state average and these are Madras, Tiruchirapalli, Coimbatore and Tirunelveli. Madras city has the highest ratio of 58.17 per cent. The lowest ratio of 53.28 per cent is found in Dharmapuri district. Lower ratio of 54.87 per cent is also found in the neighbouring district of South Arcot.

The ratios for the districts have been grouped under six broad ranges. The range of 56.01 to 57.00 per cent has six of the 14 districts as also the state average. Circles within the districts depict the size of the urban female population. The percentage of females of working age in the district is shown by sector within each circle.

The data and the percentages are given in the following statement :

Unit	Urban female population 1971		Per cent
	All ages	15-59	
1	2	3	4
TAMIL NADU	6,075,540	3,454,666	56.86
Madras	1,172,254	681,918	58.17
Chengalpattu	483,302	272,805	56.45
North Arcot	385,341	215,385	55.89
South Arcot	250,395	137,389	54.87
Dharmapuri	70,204	37,404	53.28
Salem	388,223	218,621	56.31
Coimbatore	748,430	431,664	57.68
Nilgiris	117,027	64,447	55.07
Madurai	649,913	365,736	56.27
Tiruchirapalli	420,259	242,517	57.71
Thanjavur	392,587	220,109	56.07
Ramanathapuram	375,405	211,002	56.21
Tirunelveli	520,515	298,309	57.31
Kanniyakumari	101,685	57,360	56.41

Two horizontal bar diagrams below the map show respectively the urban area (of districts) and the urban females of ages 15-59 of the districts falling in the high to low ranges. The cumulative figures of area and female population as also percentages are indicated in both the bar diagrams.



MAP 32

CHANGE IN URBAN FEMALES IN WORKING AGE 15-59, 1961-71

This map depicts the variation in the percentage of urban females in ages 15-59 to total urban female population in the 1961 and 1971 censuses. This variation has been shown districtwise in six ranges as per the legend of the map.

Though the number of females in the working age-group of 15-59 living in urban areas of Tamil Nadu has increased from about 2.5 million in 1961 to nearly 3.5 million in 1971, the ratio to urban female population has not undergone much change at the state level. In 1971 this proportion stands at 56.86 per cent which is only 0.05 per cent more than in 1961. Seven districts in the state have recorded various proportions of gain and the rest have shown loss. Madras city has fallen in line with the state average of 0.05 per cent of gain while Madurai district has a slightly higher gain of 0.06 per cent.

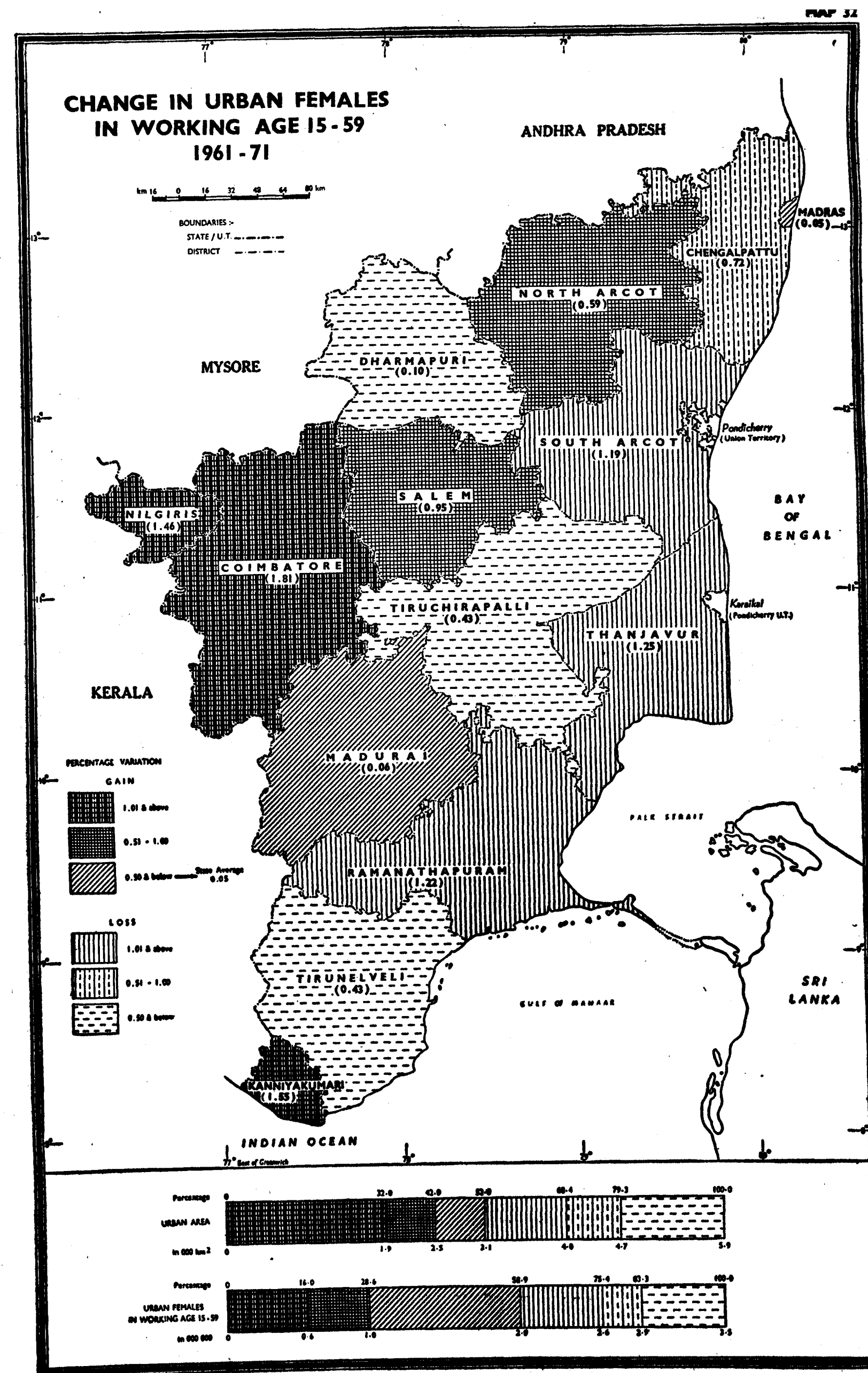
The highest gain is registered by Coimbatore district (1.81). Nilgiris and Kanniyakumari have a sizable gain of about 1.5 per cent. The loss is found to be very significant in the case of the agriculture oriented districts of Thanjavur, Ramanathapuram and South Arcot. A loss of only 0.10 per cent during the decade is seen in Dharmapuri district while the loss in Tirunelveli and Tiruchirapalli equals to 0.43 per cent in each.

The urban female population in the working ages of 15-59 in the state and districts during the 1971 and 1961

Censuses along with the percentage variation to the respective urban females of the two censuses are presented below :

Unit	Urban females of 15-59 ages		Variation in per cent during 1961-71
	1971	1961	
1	2	3	4
TAMIL NADU	3,454,666	2,506,222	+ 0.05
Madras	681,918	476,303	+ 0.05
Chengalpattu	272,805	126,087	- 0.72
North Arcot	215,385	173,301	+ 0.59
South Arcot	137,389	108,496	- 1.19
Dharmapuri	37,404	24,468	- 0.10
Salem	218,621	142,218	+ 0.95
Coimbatore	431,664	277,856	+ 1.81
Nilgiris	64,447	45,744	+ 1.46
Madurai	365,736	281,322	+ 0.06
Tiruchirapalli	242,517	194,255	- 0.43
Thanjavur	220,109	189,984	- 1.25
Ramanathapuram	211,002	175,640	- 1.22
Tirunelveli	298,309	249,644	- 0.43
Kanniyakumari	57,360	40,904	+ 1.55

The actual and percentage of area figures as well as the urban female population in the categories as shown in the map are given in cumulative term on the bar diagrams.



MAP 33

RURAL FEMALES IN WORKING AGE 15-59, 1971

This map shows the percentage of females in the age-group 15-59 to total female population at district level in the rural areas. The map gives an idea of the rural female work force during 1971 Census. The districts (except Madras, which is fully urban) are grouped into six convenient ranges for presentation in the map.

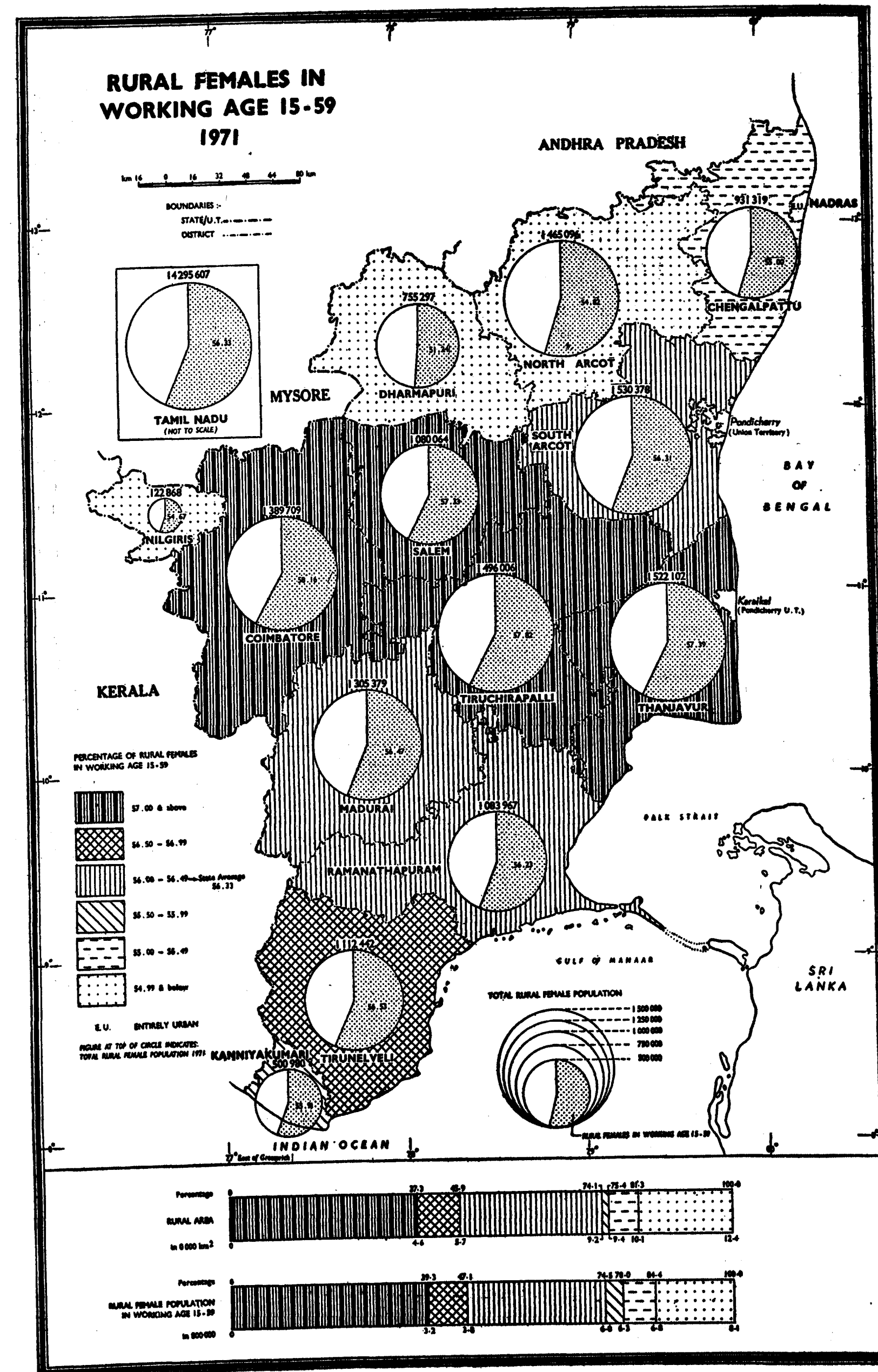
At the State level, females in working age-group of 15-59 form 56.33 per cent in the rural areas. The percentages in the districts vary between 58.16 in Coimbatore district and 51.24 in Dharmapuri district. There are four districts with a high ratio of over 57 per cent of working age females in rural areas. These districts are Coimbatore, Salem, Tiruchirapalli and Thanjavur which lie in the middle part of the State and form a contiguous region running in the east-west direction. Besides these four districts, two other districts, viz., Tirunelveli and Madurai show higher percentage of rural female working age population than the State percentage. While Dharmapuri has a very low rate (51.24 per cent) as compared to other districts, the two other districts of North Arcot and Nilgiris with 54.82 per cent and 54.67 per cent also fall in the lowest range of below 55 per cent.

There are 8.05 million females in 15-59 age-group out of a total of 14.30 million females in rural areas of the State. About 10 per cent or a little over 800,000 such females live in each of the five big districts of North Arcot, South Arcot, Coimbatore, Tiruchirapalli and Thanjavur which, put together, account for over 50 per cent of the State's rural females of the working age.

Data on rural female population, females of 15-59 ages in rural areas and the proportion of the latter to the former are presented below.

Unit	Rural female population 1971		Per cent
	All ages	15-59	
1	2	3	4
TAMIL NADU	14,295,607	8,052,994	56.33
Madras	Entirely urban		
Chengalpattu	931,319	512,253	55.00
North Arcot	1,465,096	803,205	54.82
South Arcot	1,530,378	861,784	56.31
Dharmapuri	755,297	387,019	51.24
Salem	1,080,064	619,237	57.33
Coimbatore	1,389,709	808,291	58.16
Nilgiris	122,868	67,171	54.67
Madurai	1,305,379	737,097	56.47
Tiruchirapalli	1,496,006	864,923	57.82
Thanjavur	1,522,102	873,535	57.39
Ramanathapuram	1,083,967	609,464	56.23
Tirunelveli	1,112,442	628,884	56.53
Kanniyakumari	500,980	280,131	55.91

The bar diagrams at the bottom show the geographical area in km² and the number of rural working age females in the districts for the six ranges from high to low. The actual figures and percentages are indicated in a cumulative manner in these diagrams.



MAP 34

CHANGE IN RURAL FEMALES IN WORKING AGE 15-59, 1961-71

The variations in the ratio of rural females in the working ages of 15-59 to total rural female population registered in 1971 over corresponding ratios in 1961 are depicted for the districts in this map. The districts—all except Madras which is fully urban—have been shown under six broad ranges of percentage variation as per the legend of the map.

The pattern on the map assumes significance in the light of sizable female work participation in such ages in rural areas where a large number of them are engaged in agricultural operations, (at least in seasons, in activities like sowing, transplantation, harvesting, threshing etc.) and in several household industries.

Only four out of the 13 districts have shown 'gain'. These are, Kanniyakumari (2.72 per cent), Coimbatore (0.92), Salem (0.82) and Nilgiris (0.71). Except Kanniyakumari situated at the southern end with the highest gain in the ratio during the decade 1961-71, the other three districts which have 'gain' in working age ratio are all located in a contiguous range in the western region.

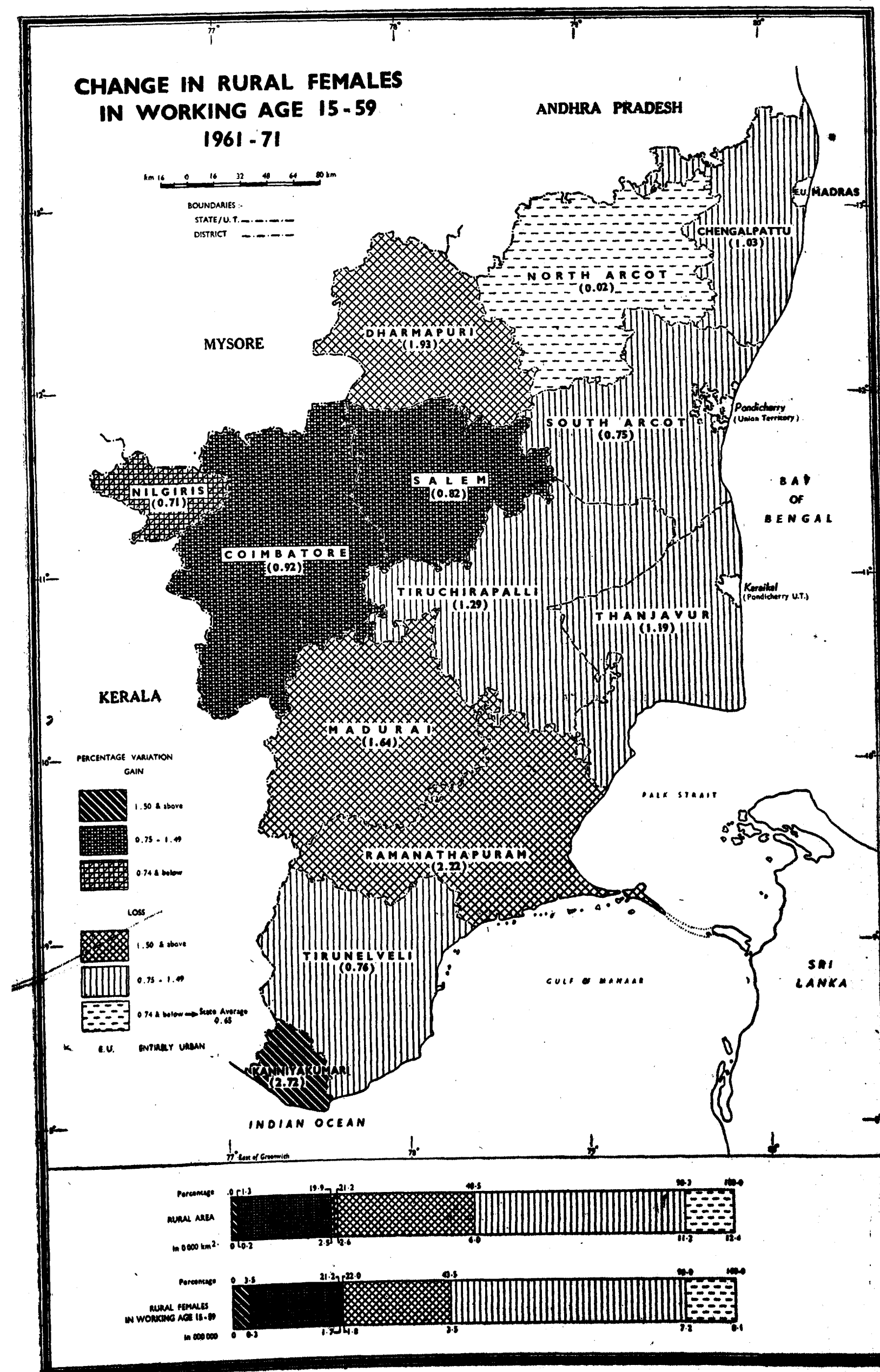
North Arcot district has not shown any significant variation (-0.02) in the percentage in the decade. The remaining eight districts have shown losses above the state average, viz., 0.65 per cent. A significant loss of 2.22 per cent in Ramanathapuram district is observed. The loss ranges from 1.00 to 2.00 per cent in five districts. In the districts of South Arcot and Tirunelveli the losses are 0.75 and 0.76 which is only slightly higher than the State average loss of 0.65 per cent.

There are 8.05 million females in 15-59 age-group in the rural areas of the state as per 1971. Over 800,000 of these females (roughly 10%) are found in each of the districts of North Arcot, South Arcot, Coimbatore, Tiruchirapalli and Thanjavur.

The female working age population in rural areas of the state and districts during 1971 and 1961 and the extent of variation in their percentage to rural female population of respective Censuses are presented below :

Unit	Rural Females of 15-59 ages		Variation in per cent during 1961-71
	1971	1961	
1	2	3	4
TAMIL NADU	8,052,994	7,045,364	- 0.65
Madras	Entirely urban		
Chengalpattu	512,253	479,234	- 1.03
North Arcot	803,205	686,198	- 0.02
South Arcot	861,784	752,433	- 0.75
Dharmapuri	387,019	324,060	- 1.93
Salem	619,237	547,049	+ 0.82
Coimbatore	808,291	715,882	+ 0.92
Nilgiris	67,171	59,440	+ 0.71
Madurai	737,097	641,236	- 1.64
Tiruchirapalli	864,923	749,235	- 1.29
Thanjavur	873,535	764,042	- 1.19
Ramanathapuram	609,464	549,472	- 2.22
Tirunelveli	628,884	554,411	- 0.76
Kanniyakumari	280,131	222,672	+ 2.72

Based on high to low 'gain' or 'loss' the districts under the six ranges have been grouped and their area in km² and rural females of working age are shown in actual figures and percentages in cumulative terms in the two bar diagrams shown below the main map.



5. URBANISATION

MAP 35

URBAN POPULATION 1971

This map shows the percentage of urban population to total population in all the taluks of the state. Places are declared 'urban' for every Census and for the 1971 Census, 439 places in Tamil Nadu were declared as urban areas. Besides municipalites, cantonments and notified areas, which were treated as urban, certain other places were also declared as urban, depending on their size, density and extent of male employment in non-agricultural jobs besides other urban characteristics. As these towns vary in area and population and are dispersed throughout the state, this map on percentage of urban population in taluks brings out clearly the variations in the extent of urbanisation in the different regions. Besides Madras, which is entirely urban there are 109 taluks having urban centres and they have been grouped into six broad percentage ranges for depiction, as shown in the map legend. There are seven taluks in the state which are completely rural in character and they do not have even a single urban area.

Madras city is fully urban and is an independent district. There are ten taluks apart from Madras which have high urban population percentage of 45 and over. Madurai south taluk is very prominent among them with the highest concentration of urban dwellers (89.53 per cent). Tuticorin (80.60 per cent) in the south, Saidapet (79.04 per cent) in the north and Coimbatore (75.08 per cent) in the west are the other important taluks with a very high proportion of urban population. Madurai south taluk has in its fold Madurai, which is the second biggest city in the state and a number of 'satellite' towns. Saidapet taluk which is adjoining Madras City has a tally of 40 urban centres within its boundary and these are the suburban areas of Madras city.

Coimbatore is the third biggest city in Tamil Nadu and lies in Coimbatore taluk and it has a number of satellite towns.

There are 11 taluks in the high percentage range of 35-45 and as in the case of the taluks with higher percentages, these taluks lie in different regions of the state. Most of these taluks with high proportion of urban population have big urban centres like cities or big sized towns within them and only a few of these taluks have urban population spread out in a number of smaller urban units. Seventeen taluks have urban population of 25 to 35 per cent. Over one half of the taluks have low urban population of less than 25 per cent. While there are 31 taluks in the percentage range of 15-25, there are 32 taluks within 5-15 per cent. There are eight taluks with very low urban population of less than five per cent. Kulathur taluk has the lowest percentage of 3.36. Orathanad (3.78 per cent) and Tirukoyilur (3.99 per cent) taluks too have low ratios of urban population.

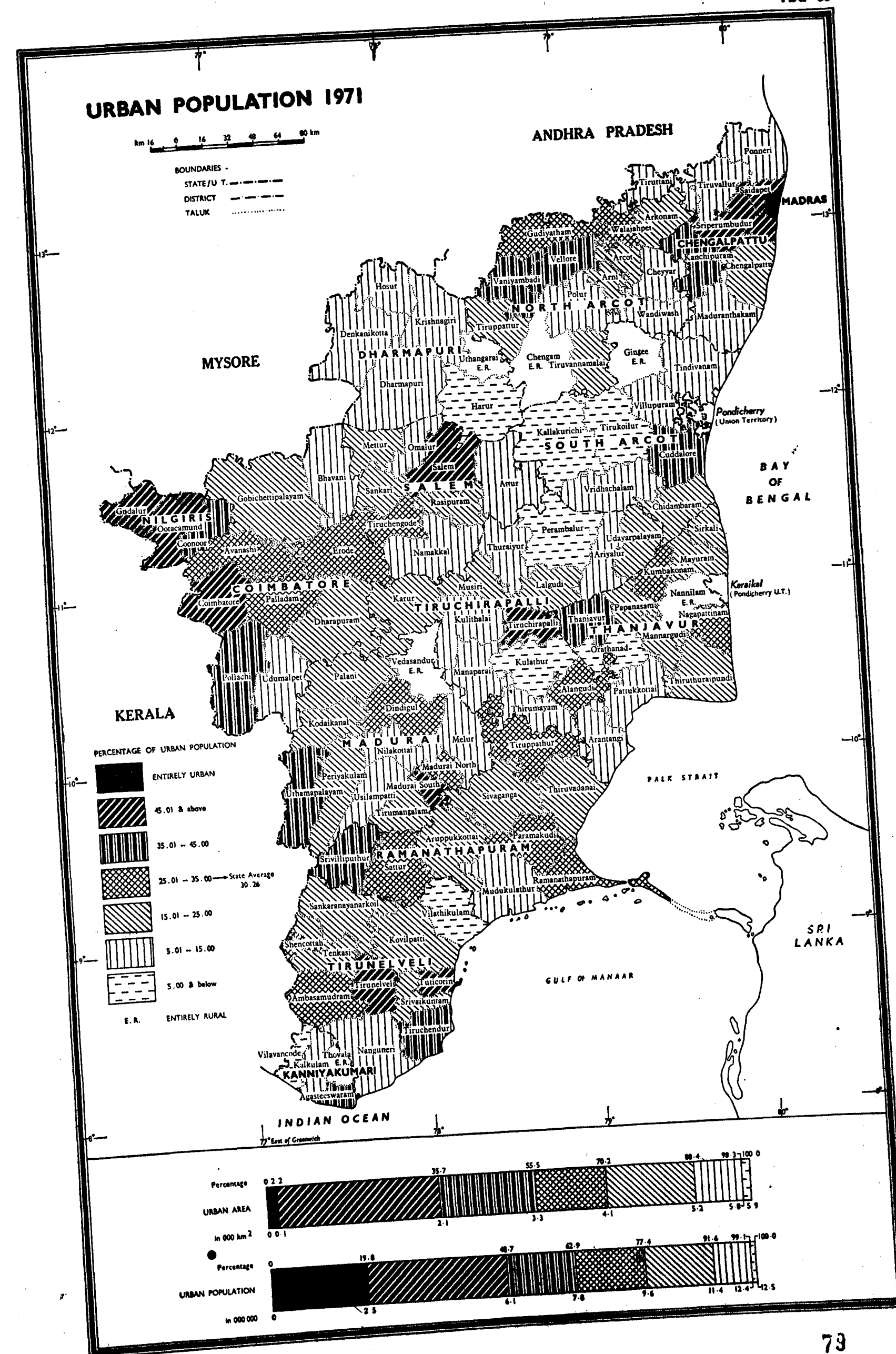
The taluks without any urban area are Chengam in North Arcot district, Gingee in South Arcot district, Uthangarai in Dharmapuri district, Veda sandur in Madurai district, Udayarpalayam in Tiruchirapalli district, Nannilam in Thanjavur district and Thovala in Kanniyakumari district. On the whole, we find that there is no particular area or region in the state where we find a continuous grouping of taluks belonging to a specific percentage range. Urbanisation ratio of taluks is dependent on the number and strength of Census towns within their limits and this varies widely.

The number of taluks in the different percentage ranges of urban population for state and districts are given below :

Unit	Number of taluks with urban population percentage of					
	45.00 and above	35.00-44.99	25.00-34.99	15.00-24.99	5.00-14.99	Below 5.00
1	2	3	4	5	6	7
TAMIL NADU	10	11	17	31	32	8
Madras	(Entire city is urban)					
Chengalpattu	2	1	..	1	4	..
North Arcot	..	2	2	5	3	..
South Arcot	..	1	..	1	3	2
Dharmapuri	..	..	..	..	4	1
Salem	1	..	1	3	3	..
Coimbatore	1	1	3	2	2	..
Nilgiris	2	1	..	..	..	..
Madurai	1	1	2	4	3	..
Tiruchirapalli	1	..	1	3	5	2
Thanjavur	..	1	2	5	2	1
Ramanathapuram	..	1	4	3	1	..
Tirunelveli	2	1	2	4	1	1
Kanniyakumari	..	1	..	..	1	1

The area and urban population of the taluks belonging to the six ranges (from high to low) as in the main map are represented in two bar diagrams where the

cumulative figures and percentages for these ranges are also indicated.



MAP 36

CHANGE IN URBAN POPULATION 1961-71

This map shows the variation in the urban population at taluk level during 1961 and 1971 Censuses.

The variations—increase or decrease—have been worked out as percentage to the 1961 urban population and depicted by choropleth in eight broad ranges, four for increase and four for decrease, as per the legend in the map. Of the 116 taluk units as also Madras city (which is taken as a single unit for purposes of this map), seven taluks are completely rural in 1971. One taluk (Kulathur) did not have any urban population in 1961, though possessing urban population in 1971.

At the state level, the urban population has increased by 38.64 per cent during 1961-71 and the number of urban centres has gone up from 339 in 1961 to 439 in 1971. Eleven taluks have recorded increases of over 60 per cent in their urban population. The notable taluks are Madurai North (487.72 per cent), Sriperumbudur (564.59 per cent), Saidapet (207.45 per cent), Manaparai (175.61 per cent) and Dharapuram (129.69 per cent). The declaration of new urban areas in the 1971 census in the above taluks has contributed to the substantial increase in their urban population. In Manaparai, however, no new urban area has been declared in 1971 census and the high increase is due to the expansion of the only existing town in this taluk and its recognition as a municipality. Twenty four taluks besides Madras city with increase in urban population, fall in the range of 40.00-59.99 per cent. Though these taluks are dispersed throughout the state, a big batch of such taluks, more or less contiguous, is seen in the western and north-western parts of the state in the districts of Dharmapuri, Salem and Coimbatore. The population of Madras city has gone up by 42.81 per cent during the decade.

The largest number of taluks viz. 40, fall in the plus range of 20-40 per cent. It is significant to note that 10 out of 13 taluks in North Arcot district fall in this range. Five taluks each in the districts of Madurai, Tiruchirapalli and Thanjavur and four in Chengalpattu districts are also in this range. There are 22 taluks with less than 20 per cent increase in urban population and four of these taluks lie in each of Thanjavur and Ramanathapuram districts and three each in South Arcot and Tirunelveli districts.

There are eleven taluks which have recorded decrease in urban population during 1961-71. The highest decrease is noticed in Polur taluk (-48.42 per cent) in North Arcot district where two towns of 1961 have lost their urban status in 1971. Similarly, in Nanguneri taluk of Tirunelveli district, the fall in urban population works out to 39.45 per cent and here too, two urban areas have been declassified as rural in 1971. Thirumayam (Tiruchirapalli district) and Nilakottai (Madurai district) taluks have lost urban population between 20-30 per cent. Two taluks of South Arcot and one taluk in Madurai district fall in the range of 10.00-19.99 per cent decrease. Two taluks of Tiruchirapalli district and one each in Madurai and Tirunelveli districts have recorded small decreases of less than 10 per cent in their urban population. The decrease in Sankaranayanarkoil (-1.13 per cent) is the lowest.

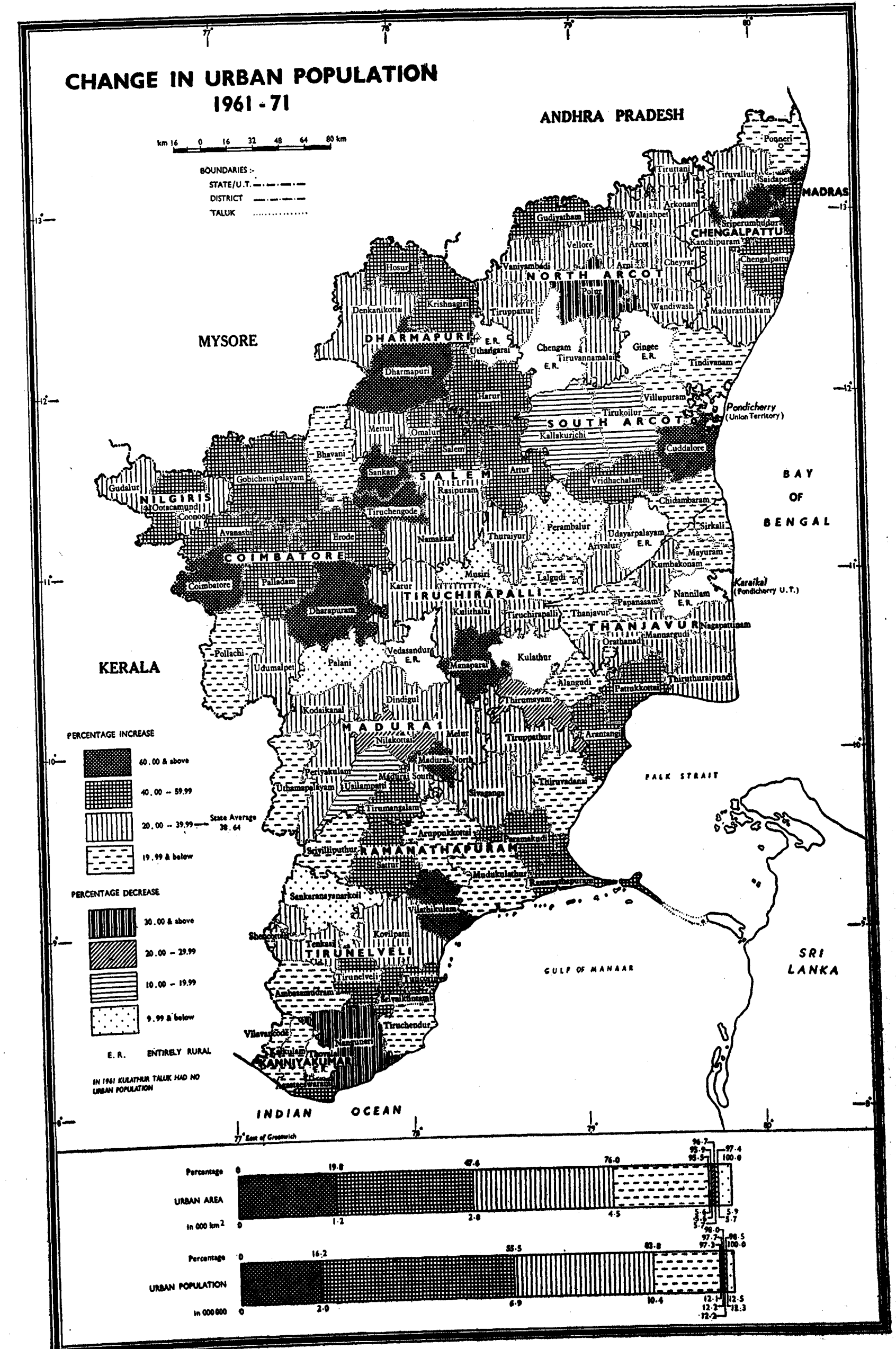
Data on the percentage increase in urban population for state and districts during 1961-71 and the number of taluks in each district falling under increase and decrease of urban population as also those with no urban population in 1961/1971 are given below :

Unit	Percentage increase in urban Population 1961/71	Number of taluks. with increase in urban population		No. of taluks with decrease in urban population	No. of taluks with no urban area in 1961/71
		Above state average	Below state average		
1	2	3	4	5	6
TAMIL NADU	38.64	39	59	11	8
Madras*	42.81	1	..	..	..
Chengalpattu	121.80	3	5	..	..
North Arcot	24.06	1	10	1	1
South Arcot	30.76	2	3	2	1
Dharmapuri	54.37	4	1	..	1
Salem	51.76	5	3	..	..
Coimbatore	50.77	7	2	..	..
Nilgiris	35.23	1	2	..	..
Madurai	30.37	2	6	3	1
Tiruchirapalli	26.39	3	5	3	2
Thanjavur	19.13	2	9	..	1
Ramanathapuram	24.55	3	6	..	..
Tirunelveli	21.42	4	5	2	..
Kanniyakumari	36.20	1	2	..	1

*Treated as one unit.

The urban area and the population of the districts falling in the ranges as shown in the map legend are presented in the two horizontal bar diagrams below the

map along with cumulative figures and percentages for the ranges (from high to low) for both 'increase' and 'decrease'.



MAP 37

RURAL POPULATION 1971

This map shows the talukwise percentage of rural population to total population as per 1971 Census. All the 116 taluks of the state have been shaded under six broad ranges and the map brings out the variations among the taluks as per the legend of the map.

The state average percentage shows that only three out of every 10 persons are urban-dwellers and the rest are rural inhabitants. Seven taluks are entirely rural. These taluks are Chengam, Gingee, Uthangarai, Vedasandur, Udaiyarpalayam, Nannilam and Thovala. There are eight other taluks which have a high rural population of 95 to 100 per cent. Fully rural taluks or taluks with low urban population of less than five per cent do not exist in the districts of Chengalpattu, Salem, Coimbatore, Nilgiris and Ramanathapuram. Such predominantly rural taluks occur in a contiguous range near the common boundaries of North Arcot, South Arcot and Dharmapuri districts and also just south of this region in Tiruchirapalli district.

There are 32 taluks with 85.00 to 94.99 per cent of

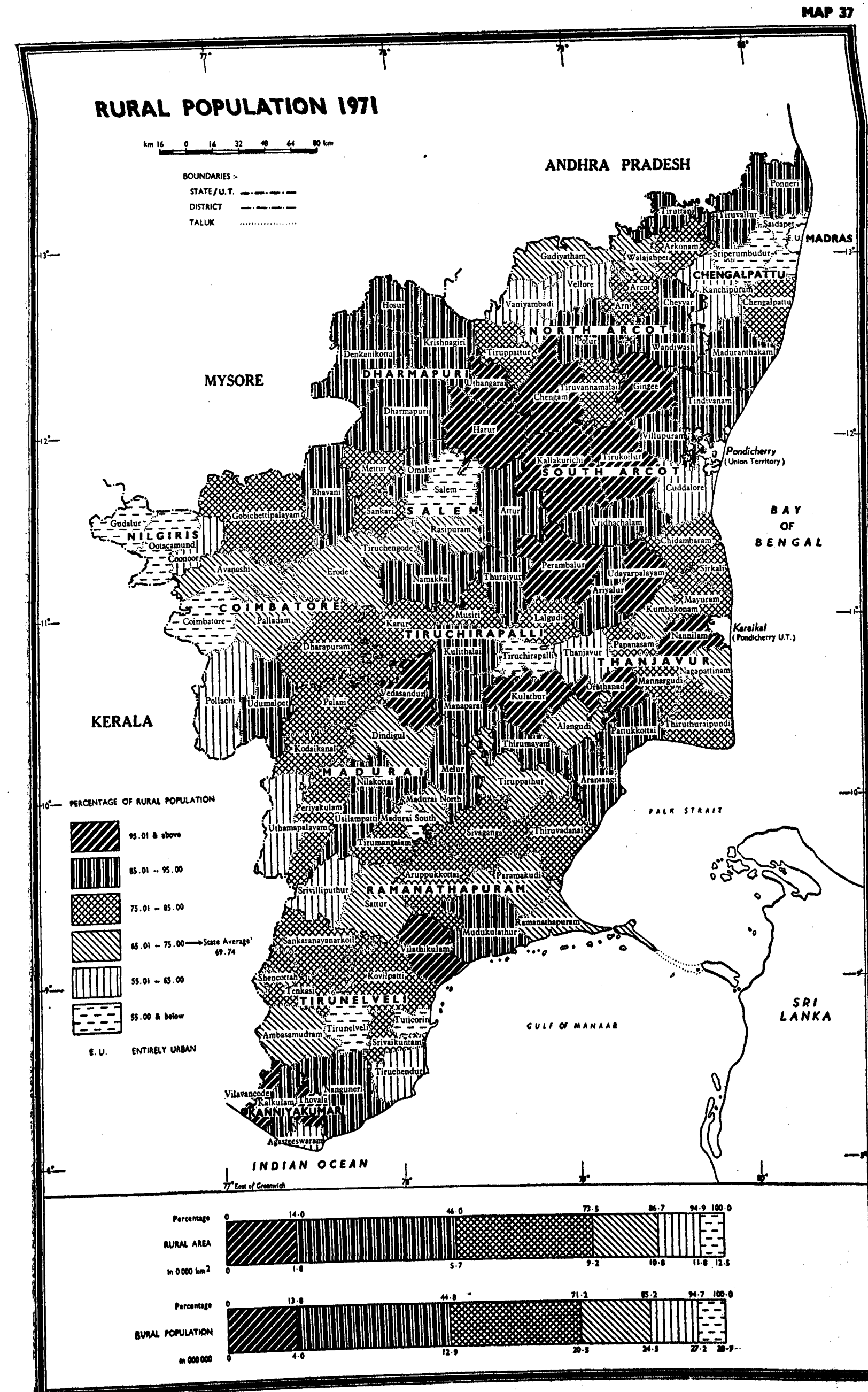
rural population. A large majority of these taluks lie in the northern districts of Chengalpattu, North Arcot, South Arcot, Dharmapuri, Salem and Tiruchirapalli. Of the 116 taluks, 83 have a rural population ratio higher than that of the state average of 69.74 per cent. There are eight taluks which have less than half of their population under 'rural'. Madurai South Taluk has only 10.47 per cent of rural population and this is because of the location of Madurai, the second populous city in the state, and its suburbs within the limits of this taluk. Tuticorin Taluk, (19.40 per cent), Saidapet Taluk (20.96 per cent), Coimbatore Taluk (24.92 per cent) and Tiruchirapalli Taluk (28.65 per cent) are the other taluks with very low percentages of rural population. All these taluks have within their limits cities and/or suburban smaller towns.

The total rural population of the state and districts, the ratio of rural population and the number of taluks in districts above and below the State average are given in the following table.

Unit	Total population	Rural population	Percentage of rural population	Number of taluks with rural population per cent	
				above state average	below state average
1	2	3	4	5	6
TAMIL NADU	41,199,168	28,734,334	69.74	83	33
Madras	2,469,449	..	..	..	..
Chengalpattu	2,907,599	1,896,909	65.24	5	3
North Arcot	3,755,797	2,972,702	79.15	10	3
South Arcot	3,617,723	3,104,726	85.82	7	1
Dharmapuri	1,677,775	1,533,834	91.42	6	..
Salem	2,992,616	2,197,234	73.42	6	2
Coimbatore	4,373,178	2,816,936	64.41	5	4
Nilgiris	494,015	250,780	50.76	..	3
Madurai	3,938,197	2,614,003	66.38	9	3
Tiruchirapalli	3,848,816	2,991,808	77.73	12	1
Thanjavur	3,840,732	3,052,694	79.48	9	3
Ramanathapuram	2,860,207	2,113,545	73.89	5	4
Tirunelveli	3,200,515	2,171,019	67.83	6	5
Kanniyakumari	1,222,549	1,018,144	83.28	3	1

The two bar diagrams below the map show the area in km² and the rural population of taluks falling in the six ranges, from high to low. The rural area and popu-

lation of taluks in each range are given in actual number as also the percentages.



MAP 38

URBAN CONCENTRATION 1971

This map shows the pattern of urban concentration, in Tamil Nadu in 1971. All the cities and towns of the State numbering 439 have been classified into six categories depending on their population size by coloured spheres as shown in the legend. The spheres are shown at their actual locations. The percentages of urban population to total population for each taluk have been plotted at the centre of the taluk and isopleths drawn at suitable intervals. The intervening space between two isopleths is shown with shades of hatching, according to the gradation of values given in the legend.

It may be observed from the map that a sizable area with high percentage of urban population (over 50 per cent) is in Madras and its surrounding regions in Chengalpattu district. A widespread contiguous region lies in the western part of Nilgiris and Coimbatore districts in the western region bordering Kerala State. Smaller pockets with high urban percentages are also noticeable in and around Tirunelveli and Tuticorin cities in the extreme south and also around Salem and Tiruchirapalli cities. Madras city is entirely urban and is surrounded by a number of thickly concentrated medium and small suburban centres. A wider region in the western Nilgiris and Coimbatore with a high percentage is due to the emergence of a number of smaller towns in all the three taluks of Nilgiris district in the last two decades and the high urban concentration in a number of areas in Coimbatore taluk as also Avanashi and Pollachi

taluks of Coimbatore district. Regions with urban population between 35-50 per cent are situated at or near the big city regions like Cuddalore, Vellore, Madurai etc. apart from the neighbourhoods of the high urban concentrations earlier described. The one exception to this is the western part of Madurai/Ramanathapuram districts where though far away from city regions the existence of a number of urban centres in Uthamapalayam and Srivilliputhur taluks (more particularly in Rajapalayam sub-taluk) has contributed to the high percentage.

There are a few pockets with practically little urban population (upto 10 per cent) and such areas are easily identifiable in the map. They lie near each other in the northern regions of South Arcot, North Arcot and Dharmapuri districts. Tiruchirapalli and Thanjavur districts as also Madurai and Kannyakumari districts have some areas with no urban population. Markedly low percentages of urban population of 0-10 per cent occur in a wide area in and around the common borders of the districts of South Arcot, North Arcot, Dharmapuri and Salem in the northern region. There is also a sizable area of similar low urbanised region lying in the centre between the cities of Salem, Coimbatore, Madurai and Tiruchirapalli. A large area of the state falls under the values of 5-10 and 15-25 per cent.

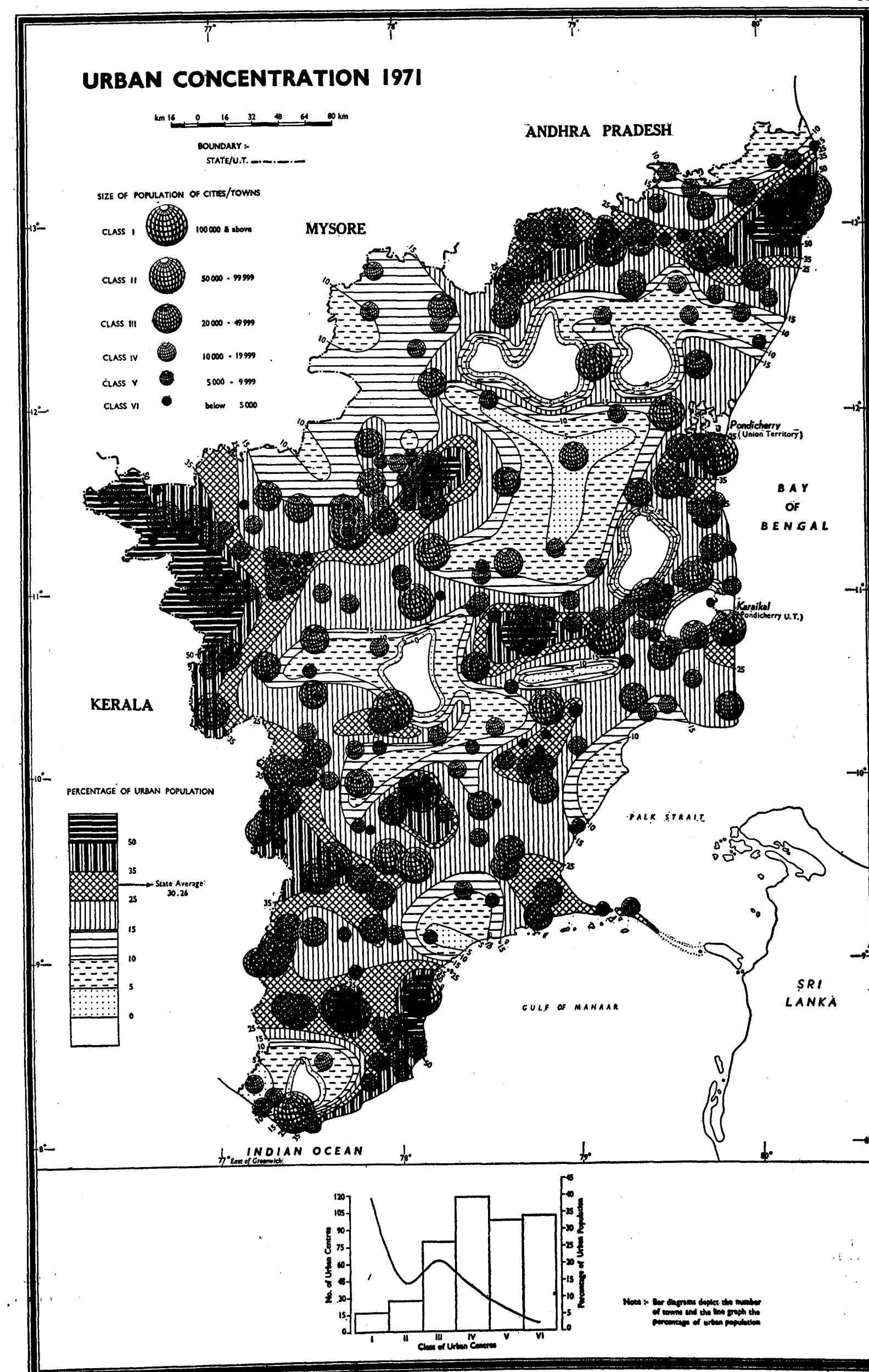
The number of taluks falling in the different percentage ranges are presented below for state and districts.

Unit	Number of taluks with percentage of urban population							
	entirely rural	5.00 and below	5.01-10.00	10.01-15.00	15.01-25.00	25.01-35.00	35.01-50.00	50.01 and above
	1	2	3	4	5	6	7	8
TAMIL NADU	7	8	21	11	31	17	13	9
Madras*	..	..	..	..	..	..	..	1
Chengalpattu	..	..	3	1	1	..	2	1
North Arcot	1	..	3	..	5	2	2	..
South Arcot	1	2	1	2	1	..	1	..
Dharmapuri	1	1	1	3	..	..	..	..
Salem	..	..	2	1	3	1	..	1
Coimbatore	..	..	1	1	2	3	1	1
Nilgiris	..	..	..	..	..	..	2	1
Madurai	1	..	2	1	4	2	1	1
Tiruchirapalli	1	2	4	1	3	1	..	1
Thanjavur	1	1	1	1	5	2	1	..
Ramanathapuram	..	..	1	..	3	4	1	..
Tirunelveli	..	1	1	..	4	2	1	2
Kannyakumari	1	1	1	..	..	..	1	..

*Treated as one taluk unit.

The bar diagram at the bottom of the map shows the number of town of each class in Tamil Nadu in 1971 and

the proportion of states' urban population living in the different classes of towns in the form of a line graph.



MAP 39

GROWTH OF URBAN POPULATION 1901-71

This map shows the growth in the urban population in the districts and state in the eight censuses held from 1901. The urban population at the different censuses are depicted by vertical bar diagrams. These diagrams have been split up with distinctive shades to represent the division of the urban inhabitants into those living in towns including urban agglomerations belonging to class I (100,000 and above population), class II (50,000 at 99,999 persons), class III (20,000 to 49,999 persons), class IV (10,000 to 19,999 persons) and class V & VI (5,000 to 9,999 and below 5,000 persons). The data for the map have been culled out from the 1971 census Table A-VI and represent the actual population of the urban areas as recognised and enumerated in the concerned censuses and no adjustment for area changes or subsequent derecognition of towns has been made. There are three urban agglomerations, viz., Madras, Erode and Bhavani whose area extend into two districts; the total population of these urban agglomerations has been shown against the districts accounting for the majority of the concerned population of these urban agglomerations.

Of the State's 12.46 million urban inhabitants in 1971, 7.20 million (58 per cent) are in class I cities/ urban agglomerations. Madras urban agglomeration which has 58 constituent urban units including Madras Corporation contributes a major share to the total urban dwellers of all class I towns (44 per cent). The other prominent districts contributing over half-a-million population under class I centres in 1971 are Coimbatore (1.06 million) and Madurai (0.84 million). The districts of Dharmapuri, Nilgiris and Ramanathapuram do not have any class I town/urban agglomeration. Chengalpattu and South Arcot districts came to have class I towns only in 1971 Census.

Census Year	Total Urban population and decadal increase in per cent	Urban population				
		Class I	Class II	Class III	Class IV	Class V & VI
1	2	3	4	5	6	7
1901	2,724,781	828,140	430,664	446,696	673,074	346,207
1911	3,149,137 (15.57)	886,475	444,461	600,225	755,688	462,288
1921	3,428,079 (8.86)	1,015,973	464,477	594,576	777,860	575,193
1931	4,230,382 (23.40)	1,472,476	371,181	927,197	775,137	684,391
1941	5,173,682 (22.30)	1,829,090	632,009	997,038	978,041	737,504
1951	7,333,525 (41.75)	3,064,659	851,648	1,555,085	1,089,428	772,705
1961	8,990,528 (22.59)	4,272,051	1,266,489	1,551,746	1,284,072	616,170
1971	12,464,834 (38.64)	7,197,540	1,765,092	1,882,968	1,232,432	386,802

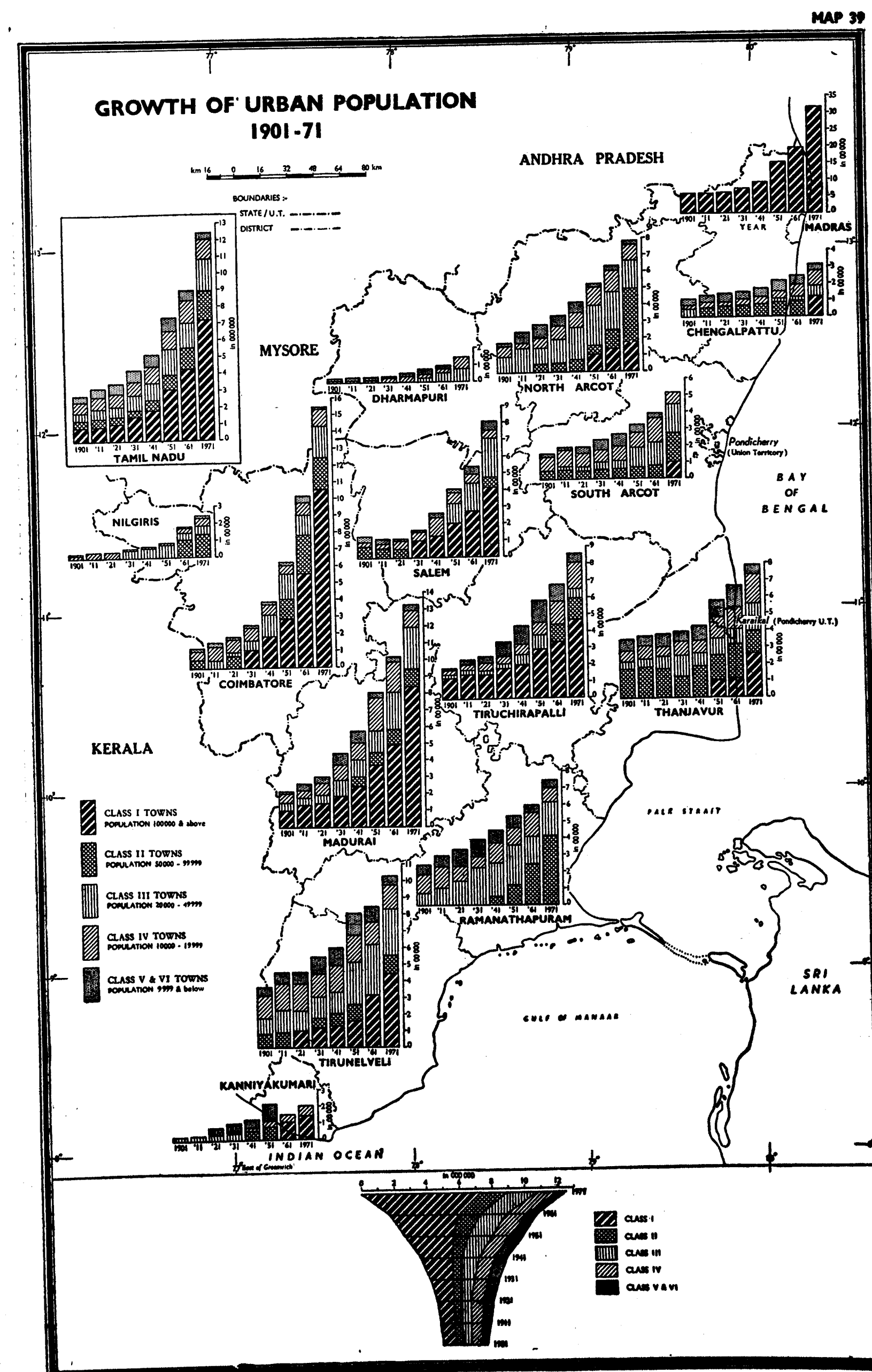
A diagram showing the state's urban population in the five classes of towns along with their growth over the decades since 1901 is also presented below the main map. The rapid increase in the population under class I

Population under class II cities and urban agglomerations is found in all the censuses since 1901 in South Arcot and Thanjavur districts; in Dharmapuri district, there has never been any class II town in all these censuses. In all the other districts, there were no class II towns in one or more Census years and hence no urban population in such years. The highest population under class II in 1971 is in Ramanathapuram district, followed by North Arcot district.

Population under class III is found in all the eight Censuses from 1901 in the districts of North Arcot, Madurai, Thanjavur, Ramanathapuram and Tirunelveli. Population under the last two classes of towns shown in the map have been returned in most of the districts, the exceptions being Madras, South Arcot, Dharmapuri, Nilgiris and Kanniyakumari.

Apart from Madras, the growth of urban population through the decades is phenomenal in the case of Coimbatore, Madurai and Salem districts. The growth is substantial in the last three to four decades in almost all the districts except Kanniyakumari where the urban population has dwindled since 1951. It may be observed from the map that town/urban agglomeration of the first three classes have contributed substantially to the urban population of the various districts.

The urban population of the state and their distributions in the various size classes of towns along with the decadal increase in percentage are presented in the following statement :



MAP 40

DEGREE OF URBANISATION 1971

This map shows the extent of urban influence of the cities and towns over their surrounding areas in the state in 1971. The urban centres belonging to the six different classes with reference to their population size recognised in census—numbering in all 439 in Tamil Nadu—have been represented in the form of circles, the radii of which represent the distances upto which these cities/towns are likely to exert their urban influence.

The distances upto which each class of cities and towns exerts its influence have been assumed as follows :

Class of cities/towns	Population size	Extent of urban influence
1	2	3
Class I	1,000,000 and above	50 km.
Class I	500,000—999,999	40 km.
Class I	100,000—499,999	30 km.
Class II	50,000—99,999	20 km.
Class III and IV	10,000—49,999	10 km.
Class V and VI	Below 10,000	Nil

(Shown by dot)

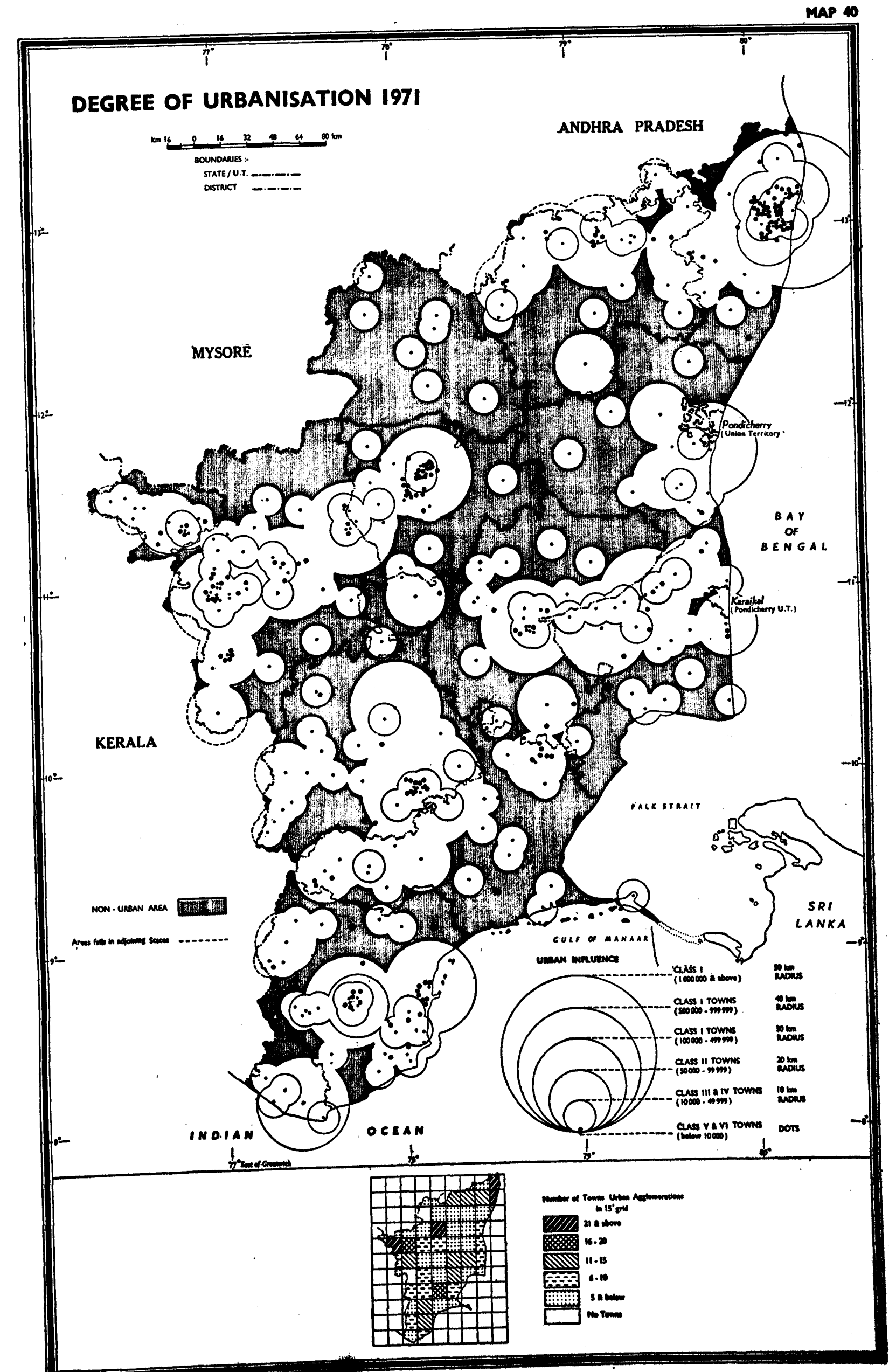
It may be observed from the map that the urban influence encompasses a large area in Madras-Chengalpattu districts. Urban areas and their influence extend over substantially large tracts in Salem and Coimbatore districts as also Madurai, Tiruchirapalli, Thanjavur and Tirunelveli districts in the south. In the smaller districts of Nilgiris and Kanniyakumari, a major part of the area falls under the influence of some urban area or the other. Large rural areas which have not been exposed to strong urban influence are observed in Dharmapuri, Ramanathapuram and South Arcot districts. A widely contiguous rural tract with little or no urban influence is easily discernible near the common borders of the districts of Tiruchirapalli, Salem, South Arcot, North Arcot and also Dharmapuri. The district of Chengalpattu which encircles metropolitan Madras has in its fold 57 towns which form constituent units of the Madras urban agglomeration and is a highly urbanised region. Other noticeable areas with a high level of urbanisation are Coimbatore and Salem in the western region, Madurai and Tuticorin in the southern region and Tiruchirapalli and Thanjavur in the central region of the state.

The percentage of urban population in the districts and the number of towns of different classes in 1971 are given below.

Unit	Percentage of urban population	Number of town in classes						
		All	I	II	III	IV	V	VI
1	2	3	4	5	6	7	8	9
TAMIL NADU	30.26	439	17	27	79	118	97	101
Madras	100.00	1	1	..	..	..	..	..
Chengalpattu	34.76	74	1	5	6	11	17	34
North Arcot	20.85	32	1	4	7	8	6	6
South Arcot	14.18	14	1	2	6	4	1	..
Dharmapuri	8.58	7	..	..	2	5	..	..
Salem	26.58	43	1	..	8	6	17	11
Coimbatore	35.59	58	4	2	12	15	13	12
Nilgiris	49.24	17	..	1	1	8	2	5
Madurai	33.62	38	2	1	11	9	7	8
Tiruchirapalli	22.27	32	1	3	4	13	8	3
Thanjavur	20.52	32	2	2	5	13	8	2
Ramanathapuram	26.11	34	..	5	8	6	10	5
Tirunelveli	32.17	52	2	2	9	16	8	15
Kanniyakumari	16.72	5	1	..	..	4	..	..

A reduced map of the state divided into small equal squares showing the number of 1971 census urban areas falling in each square measuring 2900 km² is depicted at

the bottom of the map to show the variations in number of towns in the state.



MAP 41

TOWNS THAT LOST URBAN STATUS DURING 1961-71

This map shows the towns or Census urban units of 1961 which lost their 'urban' status and were treated as rural in 1971 Census. The derecognised towns belonged to three size-classes of population in 1961, viz. i) Less than 5,000 (Class VI), ii) 5,000-9,999 (Class V) and iii) 10,000-19,999 (Class IV). No towns of class I to III of 1961 Census were derecognised. The derecognised towns have been shown in the map in the form of three different spheres, in accordance with the class to which they belonged in 1961.

Fortyfive of the 339 towns which were treated as 'urban' in 1961 Census in the State lost their urban status during the 1971 Census. Twenty of them belonged to size class V, 18 to class IV and the remaining 7 to class VI during 61 Census. The districts of Madras, Chengalpattu, Dharmapuri, Nilgiris and Kanniyakumari have not been affected and the derecognised towns were in other districts. Eight towns in each of the districts of Tiruchirapalli and Tirunelveli, seven in South Arcot District, five each in Coimbatore, Madurai and Ramanathapuram districts, four in Thanjavur, two in North Arcot and one in Salem district have lost urban status in the decade. Kottur (Coimbatore district) with as high a

population as 19,862 in 1961 is the notable town to lose urban status in 1971. The two other such big towns to lose their urban status are Ayakudi (Madurai district) with 1961 population of 17,077 and Sendamangalam (Salem District) with a population of 15,320.

The smallest town to lose urban status is Padukapattu in Tirunelveli district with a population of 1,643. There are three other small towns of 2,000 to 3,000 persons which also lost their urban status in the decade. From the map it may be observed that the loss of status of towns is markedly by higher in the southern districts as also in the agriculture-oriented districts of South Arcot, Tiruchirapalli and Thanjavur in the Central region while fewer towns in the northern and north western belt have been derecognised.

The total 1961 population of the 45 towns which lost their urban status was 396,593, of which the bigger towns of 10,000 persons and above accounted for 230,192. The number of towns and their 1961 population which were derecognised in 1971 are given below for state and districts :

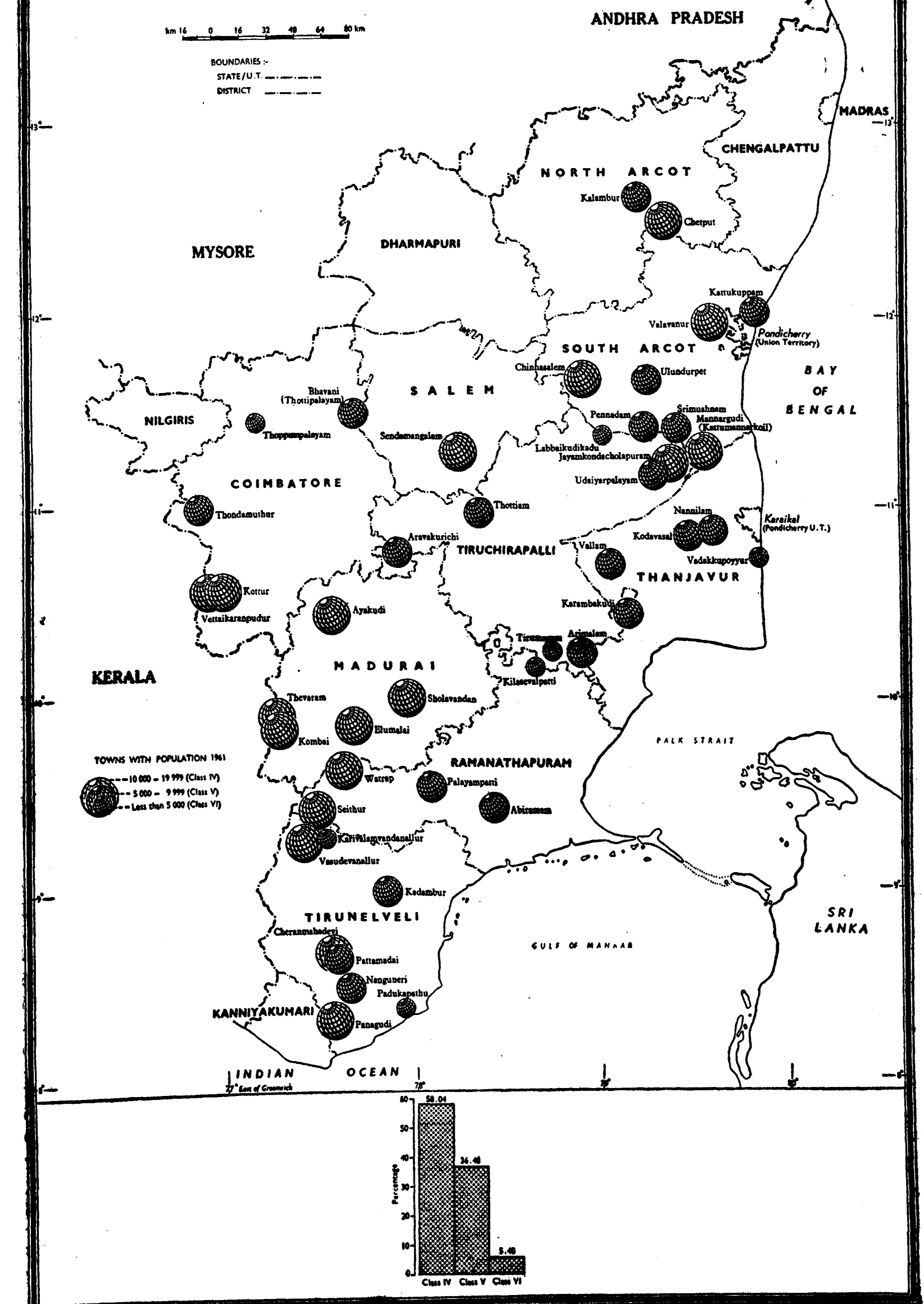
Units*	Number of towns which lost urban status and their 1961 population			
	Total	Class IV	Class V	Class VI
1	2	3	4	5
TAMIL NADU	45 (396,593)	18 (230,192)	20 (144,679)	7 (21,722)
North Arcot	2 (20,272)	1 (10,929)	1 (9,343)	..
South Arcot	7 (63,442)	3 (32,419)	4 (31,023)	..
Salem	1 (15,320)	1 (15,320)	..	..
Coimbatore	5 (50,543)	2 (34,377)	2 (12,253)	1 (3,913)
Madurai	5 (63,724)	5 (63,724)	..	..
Tiruchirapalli	8 (53,907)	1 (13,531)	5 (33,216)	2 (7,160)
Thanjavur	4 (26,537)	..	3 (24,295)	1 (2,242)
Ramanathapuram	5 (37,676)	2 (23,068)	2 (12,412)	1 (2,196)
Tirunelveli	8 (65,172)	3 (36,824)	3 (22,137)	2 (6,211)

*excludes districts not having derecognised towns.

The percentage of population in the derecognised towns for the three classes is shown in a vertical bar

diagram, at the bottom of the main map.

TOWNS THAT LOST URBAN STATUS DURING 1961-71



MAP 42

FUNCTIONS OF CLASS I AND II URBAN CENTRES 1971

This map shows the functional characteristics of class I and II towns/urban agglomerations i.e., places with 100,000 population and above, and those with population of 50,000 to 99,999 in the state. There are 16 Class I Towns/UAs and 27 Class II towns/UAs in Tamil Nadu as per 1971 Census. The Class I towns are designated as cities in Census and there are 17 cities in the state, two cities (Coimbatore and Singanailur) falling under one and the same urban agglomeration. The functional characteristic is dependent on the extent of the workers of these towns belonging to six broad industrial categories, viz. (i) Primary (ii) Mining (iii) Industry (iv) Trade and commerce (v) Transport and (vi) Services. If over 40 per cent of workers belonged to any one of the above six categories, the town was considered as belonging to that category. If no category of workers came upto 40 per cent, the first two industrial categories (based on percentage) which accounted totally for 60 per cent of workers form the basis for classification and the towns deemed bi-functional. If workers of the two categories also did not add upto 60 per cent, the third predominant category of workers is also taken into consideration and the town is then termed as multi-functional. The later two classes of Towns/UAs are represented by two different sizes of circles and the functional characteristic of each town is shown as per the legend with equal divisions for bi-functional and multi-functional towns.

Among the 16 Class I towns/UAs four are mono-functional, viz. Coimbatore, Salem, Tiruppur and Kanchipuram and all the four belong to the same function, viz. 'Industrial'. Of the five bi-functional cities, viz. Madurai, Erode, Nagercoil, Dindigul and Kumbakonam, all except Nagercoil are industrial-cum-commercial; Nagercoil's functional characteristic is industrial-cum-services. Of the seven remaining cities, six are 'industrial', 'commercial' and 'services' though priorities of these three categories may vary. Madras UA is multi-functional 'industrial-cum-services-cum-commercial'. It is noteworthy that one of the multi-functional cities, viz., Cuddalore has as its multi-function, 'Services-cum-Industrial-cum-Primary'. This is the only Class I town to have 'primary' as its characteristic which includes cultivators and agricultural labourers.

Among the Class II towns, 12 are mono-functional—nine under 'industrial', two under 'primary' and one under 'mining'. The characteristic of Neyveli, the lignite mining area is 'mining' and it is the only town to have mining as its predominant function in the state. Valparai in Coimbatore district has lot of plantation workers and Bodinaikanur in Madurai district has more of agricultural workers and these are therefore 'primary' in nature. Of the nine 'industrial' towns of Class II, four are in North Arcot district, viz. Arcot, Gudiyatham, Vaniyambadi and Ambur, three in Ramanathapuram district, viz. Aruppukkottai, Sivakasi and Srivilliputhur, Bhavani in Coimbatore district and Kadayannallur in Tirunelveli district. There are four bi-functional Class II towns of which two viz. Karur in Tiruchirapalli district and Virudhunagar in Ramanathapuram district are industrial and commercial. Rajapalayam in Ramanathapuram district is 'primay-cum-industrial'. Coonoor town in the Nilgiris district is also bi-functional with 'services-cum-industry' as its characteristic. Of the 11 Class II towns which are multi-functional, six are industrial-cum-commercial-cum-services though in varying order of precedence. Villupuram is the only town with multi-functional characteristic to have transport as its function. It falls under 'commercial-cum-transport-cum-services'.

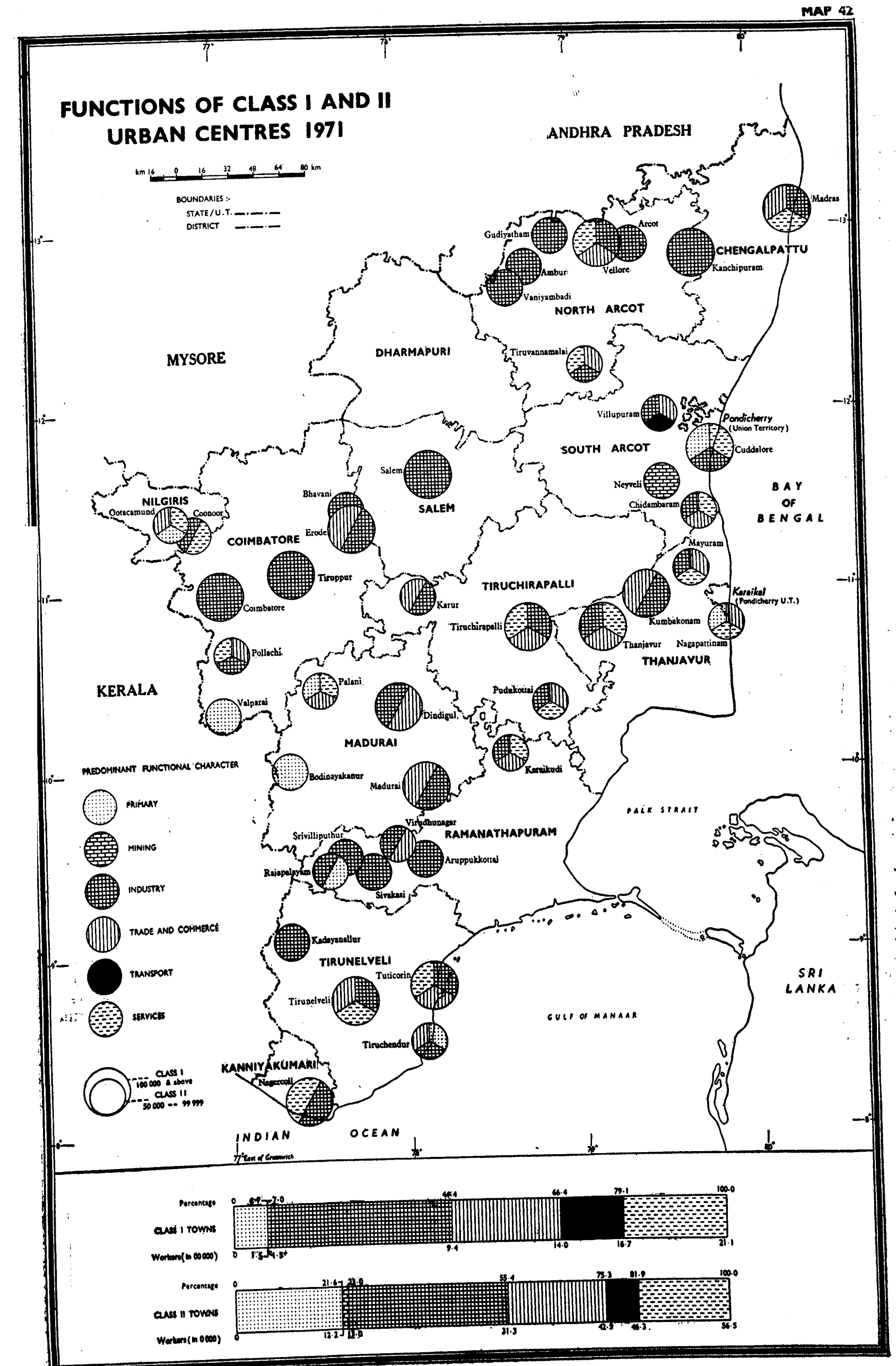
Population, workers and percentage of workers in

chief functions relating to Class I and II urban centres are given below :

Unit (Town/UA)	Popula- tion 1971	Workers 1971	Percent- age of workers in chief functions
1	2	3	4
Madras UA	3,169,930	897,517	78.79
Coimbatore UA	736,203	238,284	44.13
Madurai UA	711,501	202,355	64.06
Tiruchirapalli UA	464,624	129,706	79.07
Salem UA	416,440	136,880	49.09
Tirunelveli UA	266,688	81,795	79.27
Tuticorin UA	181,913	53,816	73.96
Vellore UA	178,554	51,024	83.36
Erode UA	169,613	59,430	60.94
Tiruppur UA	151,127	55,026	55.45
Nagercoil	141,288	38,551	60.23
Thanjavur	140,547	36,479	80.43
Dindigul	128,429	35,968	65.80
Kanchipuram UA	119,693	37,548	46.56
Kumbakonam UA	119,655	32,897	63.47
Cuddalore	101,335	26,918	67.76
Valparai	95,175	45,067	76.19
Pollachi UA	93,838	31,226	73.97
Karaikudi UA	88,371	23,710	79.74
Rajapalayam	86,952	30,842	69.56
Arcot UA	75,911	21,409	43.32
Nagapattinam UA	74,019	18,659	70.08
Coonoor UA	70,813	22,606	64.43
Gudiyatham UA	67,966	22,274	56.86
Pudukottai	66,384	17,100	80.55
Karur	65,706	20,834	63.42
Ootacamund	63,310	20,780	74.80
Aruppukkottai	62,223	26,587	63.80
Virudhunagar	61,902	18,342	66.24
Tiruvannamalai	61,370	18,194	71.06
Sivakasi UA	60,753	25,303	64.87
Villupuram	60,242	16,624	68.63
Mayuram	60,195	15,560	78.65
Neyveli	58,285	15,781	48.87
Vaniyambadi UA	57,686	15,911	43.18
Chidambaram UA	57,658	14,237	76.96
Bhavani UA	56,696	20,925	60.66
Tiruchendur UA	55,636	14,498	76.52
Bodinaikanur	54,176	18,534	67.06
Ambur	54,011	15,721	41.49
Srivilliputhur	53,855	20,248	47.69
Palani UA	51,664	16,357	78.66
Kadayannallur	50,295	17,894	42.68

UA—Urban Agglomeration

Two bar diagrams showing the workers and their percentages in Class I and II towns for the six functions from 'Primary' to 'Services' as shown in the legend, are drawn, wherein the cumulative figures and proportions for the two classes of towns are also marked.



FUNCTIONS OF CLASS III AND IV URBAN CENTRES 1971

This map shows the functional characteristics of urban centres belonging to Class III and IV in the state and is similar to the previous map for Class I and II centres. There are 57 urban centres falling under Class III (with population from 20,000 to 49,999) and 86 centres under Class IV (with population of 10,000 to 19,999) which are depicted in the map. These two classes of towns are shown in their respective locations by two proportionate circles with one, two or three kinds of hatches according as they are mono-functional, bi-functional or multi-functional. Five functional types, viz. Primary, Industry, Trade and Commerce, Transport and Services are represented in the map.

Of the 57 towns/urban agglomerations under class III 26 are mono-functional, 8 are bi-functional and 23 are multi-functional. Among the mono-functional towns, 12 urban centres are 'industrial' and 11 are 'primary'. It is noteworthy that 8 of these 11 centres, under 'primary' function, are situated on the mountainous terrain in the western part of the state, particularly in Madurai and Nilgiris districts. Of the 12 'industrial' urban centres under Class III, 5 are concentrated in Salem district, 3 in Tirunelveli and 2 in Ramanathapuram districts. The only urban centre to have 'transport' as its sole functional characteristic is 'Arkonam' town in North Arcot district which is an important railway junction and has railway loco workshop repair units. While the coastal town of Kilakarai in Ramanathapuram district has the mono-functional characteristic of trade and commerce, Sivaganga town of the same district has 'Services' as its chief function.

Among the Class IV urban centres, 33 out of 86 centres are mono-functional. It is significant to observe that 24 of these 33 mono-functional towns belong to the 'Primary' group. It is clear from this phenomenon that in the smaller urban centres, workers engaged in primary activities of agriculture as also forestry, fishing, plantations, orchards etc., are in substantial numbers in comparison to workers engaged in secondary and tertiary sectors of the economy. There are fewer towns having 'industry' as their chief function. These towns are Melvisharam, Taramangalam, Andipatti-Jakkampatti, Sirumugai, Kallakudi, Proddaturpet and Ettaiyapuram. There are only two Class IV urban centres which are chiefly commercial in character. One is Thondi, the coastal town of Ramanathapuram district, a little north of Kilakarai, the other 'Commercial' centre (belonging to Class III) of the same district. The other is Pallapatti lying at the western part of Tiruchirapalli district. There is no urban centre in Class IV which is mono-functional and belong to 'Services' or 'Transport' category.

The mono-functional centres in Class III and IV under the different functional characteristics are detailed below :

Mono-functional

Class III Urban Centres

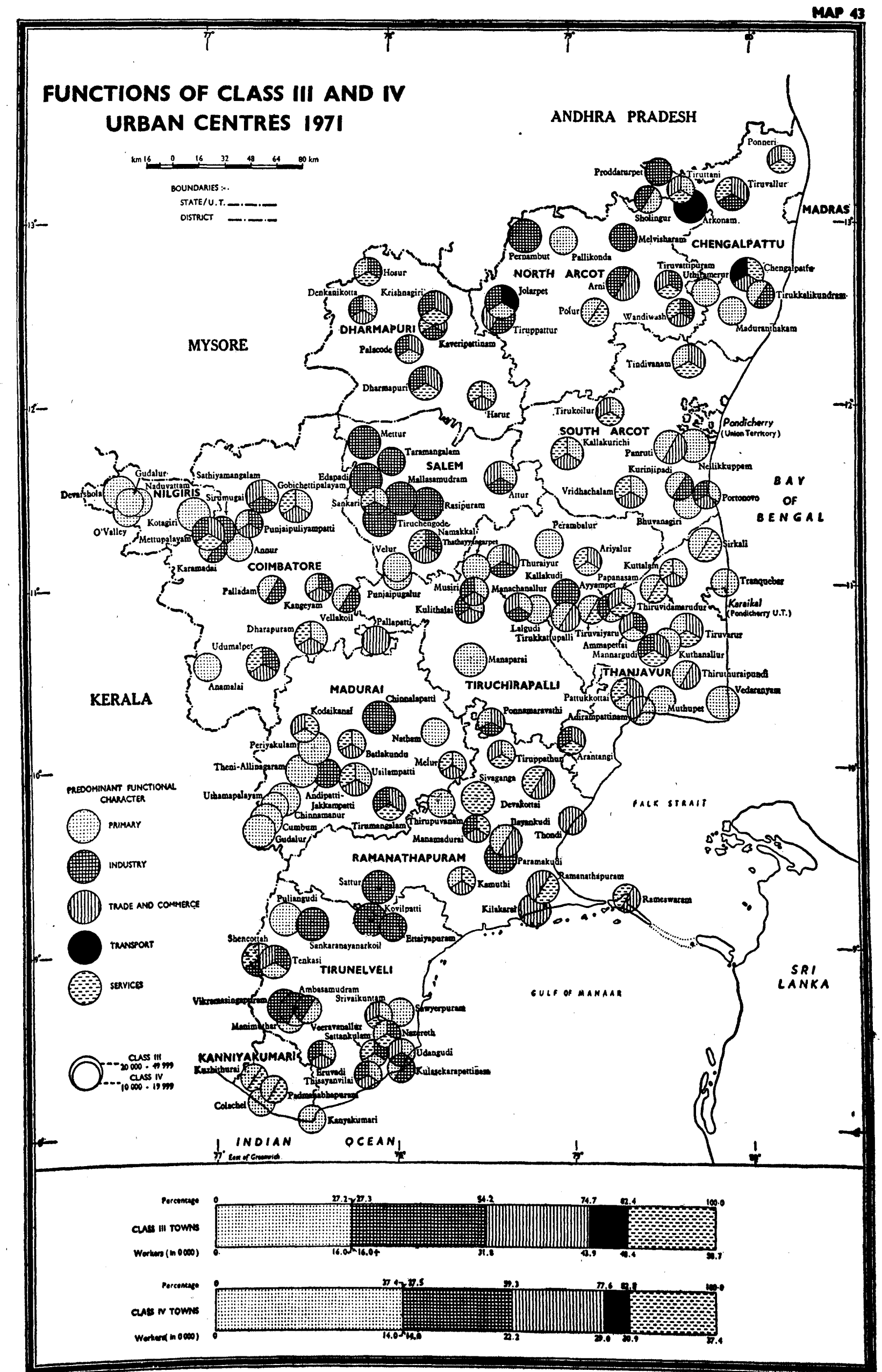
<i>Primary</i>	Periyakulam, Cumbum, Puliangudi, Nellikuppam, Theni-Allinagaram, Gudalur, Manaparai, Devarshola, Chinnamanur, Kotagiri and Vedaranyam.
<i>Industrial</i>	Paramakudi, Kovilpatti, Vikramasingapuram, Mettur, Tiruchengode, Edapadi, Sankaranayanarkoil, Rasiapuram, Mallasamudram, Chinnalapatti, Pernambut and Sathur.
<i>Commercial</i>	Kilakarai
<i>Transport</i>	Arkonam
<i>Services</i>	Sivaganga

Mono-functional

Class IV Urban Centres

<i>Primary</i>	Colachel, Maduranthakam, Uthamapalayam, Tranquebar, Natham, Uthiramerur, Kuthanallur, Lalgudi, Gudalur, Naduvattam, Velur, Anamalai, Perambalur, Bhuvanagiri, Muthupet, O'valley, Pallikonda, Punjaipugalur, Thirupuvanam, Sawyerpuram, Kanniyakumari, Manimuthar, Annur and Thathayyargarpet.
<i>Industrial</i>	Melvisharam, Taramangalam, Andipatti-Jakkampatti, Sirumugai, Kallakudi, Proddaturpet and Ettaiyapuram.
<i>Commercial</i>	Pallapatti and Thondi.

Two bar diagrams indicating the workers of the five functions shown in the main map for urban centres of Classes III and IV are also presented wherein the actual workers and their percentage in the five functions are indicated in a cumulative manner.



6. MIGRATION

MAP 44

IN-MIGRANTS 1971

This map shows the size of in-migrants and their proportion to total population for state and districts according to place of birth data of 1971 Census. (Table D-I). The number and the percentage of male/female migrants in the rural and urban areas excluding those whose birth place was unclassifiable are depicted by pie diagrams for each district. The districts have also been grouped into six ranges as shown in the legend of the map on the basis of the proportion of migrants to population.

In the state as a whole, 28.56 per cent of population have been enumerated in places outside the place of their birth. Nilgiris district has recorded the highest percentage of 40.32 of population as migrants, followed by Chengalpattu district where 34.62 per cent of the people are found in places other than village/town of birth. Besides these two districts, Madras, Coimbatore and Thanjavur are significant with more than 30 per cent of in-migrants. Kanniyakumari district has the lowest proportion of 19.58 per cent migrants. (The districts of Salem, Dharmapuri as also Ramanathapuram, also have low proportions of migrants of less than 25 per cent.

The largest number of migrants is recorded by Coimbatore district (1.45 million). The other districts with over a million migrants are the agriculturally important districts of Thanjavur, Tiruchirapalli and South Arcot as also Chengalpattu - the district containing a number of suburban areas of Madras city.

Among the migrants based on birth-place, females dominate in number. Of the 11.77 million migrants in the state, 7.54 million are females who form 64.12 per cent of the migrants. Female migrants in rural areas form the bulk, viz., 5.27 million and account for 44.82 per cent of the total migrants. Barring Madras district where the female migrants form only 45.24 per cent, all other district show that over 50 per cent of the migrants are females. The highest ratio of female migrants (71.47 per cent) is recorded by South Arcot district while in North Arcot and Kanniyakumari districts too, a little over 69 per cent of the total migrants are females. By marriage there may be more of female migrants than male migrants and this may be attributed as one of the important reasons for female dominance among migrants. Also, the custom of sending the pregnant women to their parent's houses for delivery which are generally in other villages/towns result in birth-places being different from places of habitation for a number of individuals. Migration due to reasons of study, employment, etc. also add to the number of migrants.

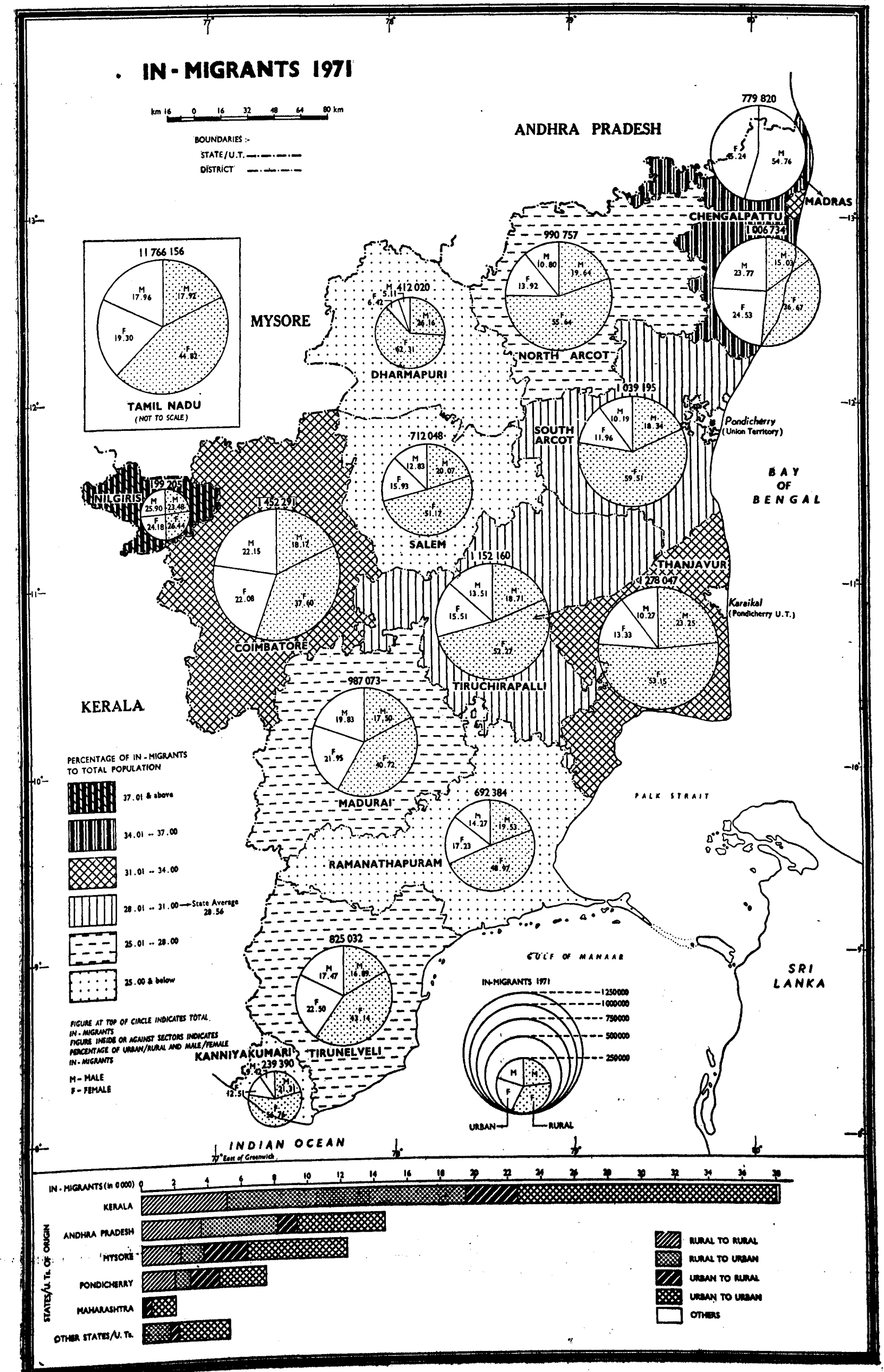
Migrants are found in larger ratios in rural areas than in urban areas. Nearly 63 per cent of the state's migrants are found residing in rural areas. The highest ratio of 88.47 per cent of migrants in rural areas is in Dharmapuri. Kanniyakumari district too has a high ratio of 78.07 per cent of migrants in rural areas.

The noteworthy feature is that in almost all the districts, barring some exceptions, female migrants outnumber male migrants. Among the female migrants, it is the rural females who outnumber their counter-part in the urban areas.

The total population, number of in-migrants and their percentage for state and districts are given below :

Unit	Total population	Migrants based on place of birth	Percentage of migrants
1	2	3	4
TAMIL NADU	41,199,168	11,766,156	28.56
Madras	2,469,449	779,820	31.58
Chengalpattu	2,907,599	1,006,734	34.62
North Arcot	3,755,797	990,757	26.38
South Arcot	3,617,723	1,039,195	28.73
Dharmapuri	1,677,775	412,020	24.56
Salem	2,992,616	712,048	23.79
Coimbatore	4,373,178	1,452,291	33.21
Nilgiris	494,015	199,205	40.32
Madurai	3,938,197	987,073	25.06
Tiruchirapalli	3,848,816	1,152,160	29.94
Thanjavur	3,840,732	1,278,047	33.28
Ramanathapuram	2,860,207	692,384	24.21
Tirunelveli	3,200,515	825,032	25.78
Kanniyakumari	1,222,549	239,390	19.58

Horizontal bar diagrams showing the number of persons born in the neighbouring States of Kerala, Andhra Pradesh, Mysore and Maharashtra and the Union Territory of Pondicherry as also other States/U.Ts. and enumerated in Tamil Nadu along with divisions to indicate the movement from rural to rural, rural to urban, urban to rural and urban to urban are presented below the main map.



INTER-DISTRICT MIGRATION 1971

This map shows the inter-district migration within Tamil Nadu, based on place of birth data. Migrants of a particular district here includes (i) in-migrants from all the other districts of the state into that district, and (ii) out-migrants from this district to all other districts within the state. The sum-total of these two categories is termed gross-migrants and this is depicted in the form of proportionate circles in each district with rural-urban distribution for in-migrants and out-migrants. Based on the percentage of net migrants to the district population (which represents the gain or loss of the in-migrants over the out-migrants), all the districts have been grouped under four ranges—two under gain and two under loss. Gain represents excess of in-migrants over out-migrants and the loss represents more of out-migrants than in-migrants. This map is based on data given in Appendix to the 1971 Census Table D-I.

Madras, Nilgiris and Chengalpattu have recorded a high rate of gain in-migrants. In Madras district, which attracts a huge tally of migrants in view of its educational and employment opportunities and in its being a big commercial and industrial centre, the net migrants form 12.96 per cent of its population. The hilly Nilgiris district has a ratio of 11.38 per cent of its population as net in-migrants. This factor is attributable to the attractions provided by its orchards, tea-plantation, etc. to the population living in other districts. Loss in-migrants is very high in the southern district of Tirunelveli and Ramanathapuram. Such excess out-migrants in these two districts form 6.33 per cent and 6.84 per cent of their respective 1971 population. Net migration is negligible and form a very small

proportion (less than ± 0.50 per cent) in the case of South Arcot, Madurai and Thanjavur districts.

Migrants in-terms of gross numbers are very high in Madras (778,781) and Tiruchirapalli districts (653,686) while they are least in Kanniyakumari district (78,145). Considering in-migrants alone, it forms a high ratio of the gross migrants in the case of Nilgiris district (75.97 per cent), Dharmapuri district (71.74 per cent) and Madras district (70.55 per cent). They form low ratios of less than 30 per cent of gross migrants in Tirunelveli and Kanniyakumari districts. Very high percentages of in-migrants to urban areas are found in Madras (70.55 per cent) and Chengalpattu district (42.43 per cent), while low proportion of such in-migrants is in Kanniyakumari district of (12.56 per cent) and Tirunelveli district (13.51 per cent).

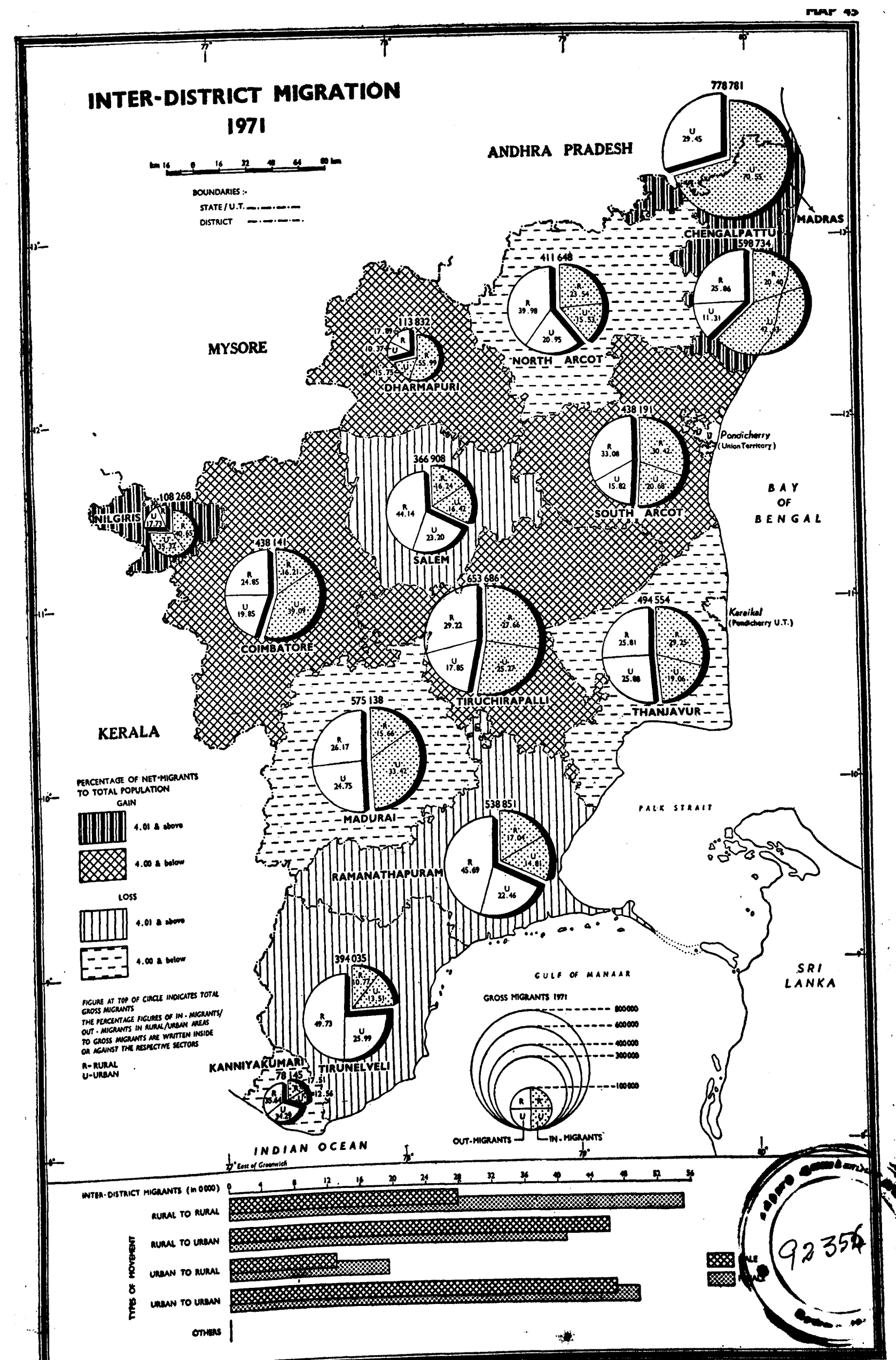
As regards out-migrants, a very high ratio of such persons in rural areas is noticeable in Tirunelveli and Ramanathapuram districts where they form 49.73 per cent and 45.69 per cent respectively. Nilgiris district has the lowest percentage of out-migrants from rural areas (6.30 per cent). Out-migrants to urban areas of other districts form high ratios in Kanniyakumari (34.29 per cent) and Madras (29.45 per cent) districts while they form lowest per cent in Dharmapuri district (10.37 per cent).

Data on in-migrants and out-migrants within the state, the net migrants and percentage of net migrant to total population are given for each district in the following statement :

Unit	In-migrants	Out-migrants	Net migrants (col.2-col.3)	Percentage of net migrants to total population
1	2	3	4	5
Madras	549,420	229,361	+320,059	+12.96
Chengalpattu	376,232	222,502	+153,730	+ 5.29
North Arcot	160,820	250,828	- 90,008	- 2.40
South Arcot	223,931	214,260	+ 9,671	+ 0.27
Dharmapuri	81,667	32,165	+ 49,502	+ 2.95
Salem	119,840	247,068	-127,228	- 4.25
Coimbatore	242,298	195,843	+ 46,455	+ 1.06
Nilgiris	82,248	26,020	+ 56,228	+11.38
Madurai	282,260	292,878	- 10,618	- 0.27
Tiruchirapalli	346,008	307,678	+ 38,330	+ 1.00
Thanjavur	238,919	255,635	- 16,716	- 0.44
Ramanathapuram	171,629	367,222	-195,593	- 6.84
Tirunelveli	95,686	298,349	-202,663	- 6.33
Kanniyakumari	23,498	54,647	- 31,149	- 2.55

Horizontal bar diagrams to show the strength of inter-district migrants in the state moving from (i) rural to rural (ii) rural to urban (iii) urban to rural (iv) urban

to urban and (v) others by male/female distinctions as presented below the main map.



MAP 46

MIGRANTS IN CITIES 1971

This map shows migrants in Cities or Urban Agglomerations having population of 100,000 and above. Migrants have been classified as having had last residence (i) elsewhere in the district of enumeration; (ii) other districts of state; (iii) other states in India; and (iv) outside India. Data for this map are based on place of last residence and have been taken from the 1971 Census Table D-III. The percentages of migrants living in urban areas to the total migrants is also shown for the districts in the form of hatches for five broad ranges as shown in the legend of the map. The migrants to cities/urban agglomerations are represented in proportionate circles and further divisions in it are shown in the form of pie diagrams along with their percentages.

There are four cities and 12 urban agglomerations (UA) having population of 100,000 and above located in different districts in Tamil Nadu. The districts of Dharmapuri, Nilgiris and Ramanathapuram do not have any city or urban agglomeration with a population of one lakh and above. The largest number of migrants recorded for any city/urban agglomeration in Tamil Nadu is Madras UA where there are 603,945 migrants. Coimbatore UA (291,540), Madurai UA (249,435), and Tiruchirapalli UA (182,315) are the other places with over 100,000 of migrants alone. Nagercoil city with 39,370 migrants and Kanchipuram UA with 39,765 migrants have fewer number of migrants among the 16 cities/UAs. It is significant to note that in Madras, 89 per cent of migrants are from other districts of state. A high proportion of over 50 per cent of migrants from other districts of state is observed in the case of three other places, viz. Kanchipuram, Madurai and Tiruchirapalli, Tiruppur, Nagercoil and Tuticorin have less than 20 per cent of their migrants from other districts of state.

It is significant to note that most of the migrants in Tiruppur, (79.12 per cent) Tuticorin (75.52 per cent)

and Tirunelveli (74.19 per cent) have come to the cities from other villages/towns of the same district in which they lie. Over half of the migrants in the cities/UAs of Dindigul, Nagercoil, Salem, Kumbakonam, Vellore, Cuddalore, Thanjavur and Coimbatore also had places of last residence within the districts in which they lie.

It is observed that migrants from other States in India are not very high but a good proportion of such migrants is noticeable in the case of cities on or near the inter-state borders. The examples are Coimbatore (24.33 per cent), Nagercoil (16.00 per cent), Cuddalore (14.96 per cent), Vellore (14.63 per cent) and Madras (9.70 per cent).

Migrants who had some foreign country as their place of last residence form a small ratio to total migrants in cities. However, we find that the cities in the south like Tiruchirapalli (3.37 per cent), Thanjavur (2.94 per cent), Madurai (1.70 per cent) and Tuticorin (1.47 per cent) have comparatively higher proportions of such migrants. The largest number of such migrants from foreign countries is however in Madras (7,835 persons) followed closely by Tiruchirapalli (6,145 persons).

Considering the urban migrants based on last residence in the districts we find that apart from Madras which is wholly urban, 50.39 per cent of the migrants in Nilgiris district and 47.95 per cent of migrants in Chengalpattu district are in urban areas. Coimbatore (44.18 per cent), Madurai (41.74 per cent) and Tirunelveli (39.65 per cent) districts also have a good ratio of urban migrants. Dharmapuri has the lowest rate of 11.98 per cent of urban migrants. South Arcot, Thanjavur and Kanniyakumari also have low urban migrants ranging from 22 to 24 per cent.

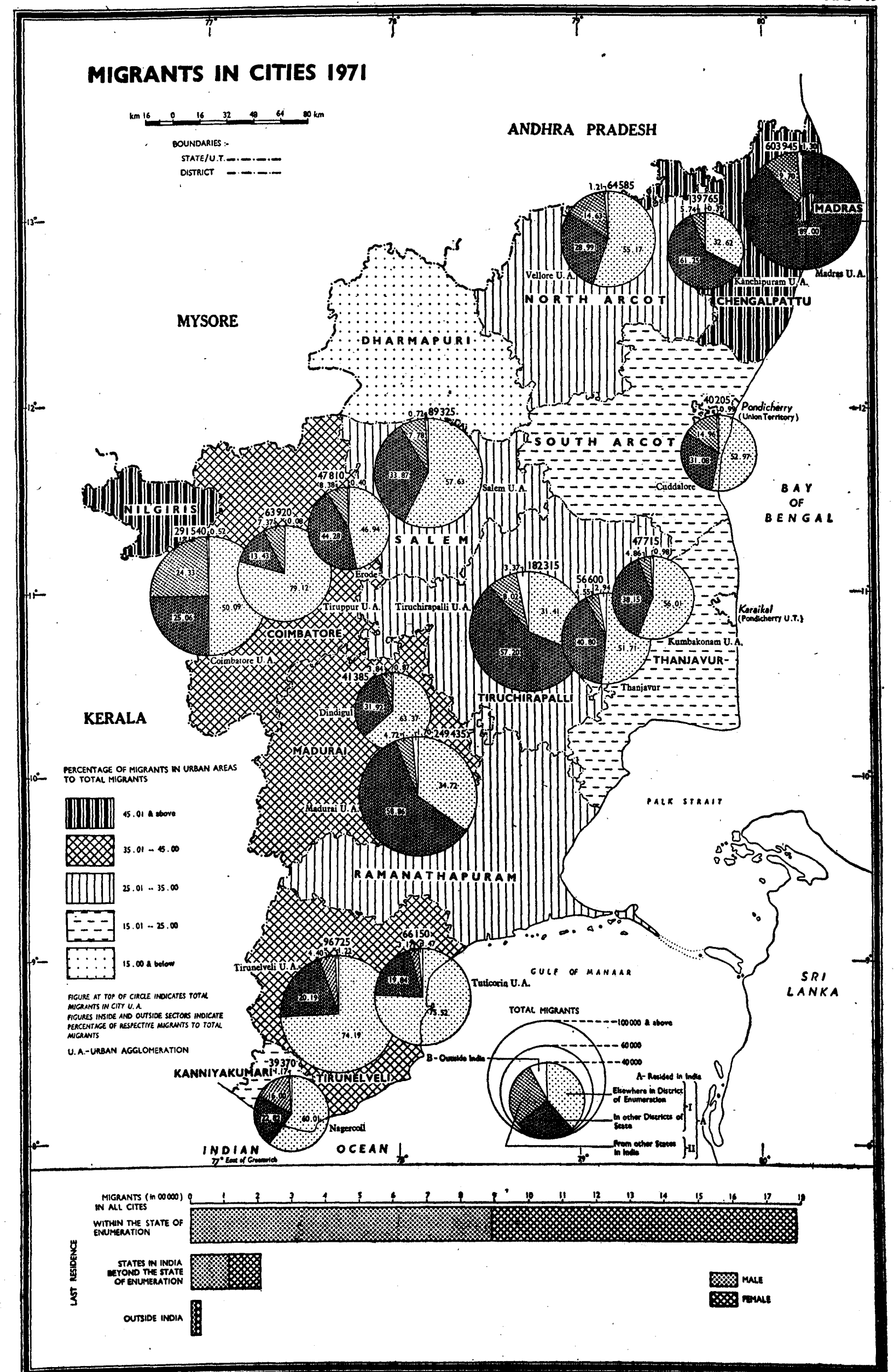
The total migrants and the four categories of migrants in the 16 cities/UAs of the state are given below :

Unit	Total Migrants	Migrants from			
		Elsewhere in the district of enumeration	Other districts of Tamil Nadu	Other States in India	Outside India
1	2	3	4	5	6
Madras UA	603,945	—	537,535	58,575	7,835
Kanchipuram UA	39,765	12,970	24,355	2,285	155
Vellore UA	64,585	35,630	18,725	9,450	780
Cuddalore city	40,205	21,295	12,495	6,015	400
Salem UA	89,325	51,480	30,255	6,950	640
Erode City	47,810	22,445	21,170	4,005	190
Tiruppur UA	63,920	50,575	8,585	4,710	50
Coimbatore UA	291,540	146,025	73,050	70,935	1,530
Dindigul city	41,385	26,225	13,210	1,590	360
Madurai UA	249,435	86,605	146,820	11,770	4,240
Tiruchirapalli UA	182,315	57,275	104,280	14,615	6,145
Kumbakonam UA	47,715	26,725	18,205	2,320	465
Thanjavur city	56,600	29,265	23,095	2,575	1,665
Tuticorin UA	66,150	49,955	13,125	2,100	970
Tirunelveli UA	96,725	71,765	19,525	4,255	1,180
Nagercoil city	39,370	23,625	8,985	6,300	460

UA-Urban agglomeration

Three bar diagrams showing the numerical strength of migrants to all the 16 cities/UAs with 100,000 population and above in Tamil Nadu, representing the following three categories of migrants, viz., from (i) within the state

of enumeration (ii) States in India beyond the state of enumeration and (iii) Outside India, with male/female divisions are also presented at the bottom of the map.



MAP 47

MIGRANTS RESIDING UPTO 4 YEARS 1971

This map shows the strength of migrants residing continuously upto 4 years in the place of enumeration for state and districts. Based on the proportion of such migrants to total migrants, the districts have been grouped into five ranges as shown in the legend of the map. The migrants are shown for each district in the form of proportionate circles with separate percentage distribution for rural/urban migrants by sex. Data for this map have been taken from 1971 Census Table D-II.

Migrants residing upto four years are large in number in the districts of Coimbatore (468,870), Thanjavur (382,180) and Chengalpattu (373,255) where over ten per cent each of such migrants in state (3.64 million) live. The small districts of Kanniyakumari and Nilgiris have less than 100,000 such migrants each. Apart from Madras where all the migrants belong to 'urban' category, only in Nilgiris and Chengalpattu districts, over fifty per cent of the migrants (upto four years of continuous residence) are found in urban areas. The percentage of urban migrants in Chengalpattu is 54.27 while that in Nilgiris is 54.89. The lowest proportion of urban migrants is recorded by Dharmapuri district (17.70 per cent).

Rural migrants form a sizable percentage of 57.33 of all migrants (upto four years residence) in the state. Dharmapuri, Kanniyakumari and Thanjavur are the three districts where the percentage of rural migrants is above 70 per cent.

Female migrants out-number their male counterparts even at the state level and form 54.84 per cent of the migrants with duration of last residence upto 4 years. In 12 out of 14 districts, females out-number males. South Arcot, Kanniyakumari, North Arcot and Dharmapuri districts have each recorded female migrants ranging from 58 to 60 per cent which are higher when compared to other districts. Only two districts have lower ratio of less than 50 per cent of females among migrants and these are Nilgiris (47.54 per cent) and Madras (45.04 per cent).

Nearly fifty per cent of the migrants (upto 4 years residence) in Dharmapuri are females belonging to rural areas alone and this signifies a very high rate of female movement into the rural areas of this district. Similarly, females are predominant among the migrants to rural areas in the case of North Arcot, South Arcot, Thanjavur and Kanniyakumari districts where their percentages fall between 40 and 45. Males from rural areas form comparatively high ratio of 32.80 per cent in Dharmapuri and 30 per cent in Thanjavur district. Higher ratios of male migrants in urban areas are observed in Madras and Nilgiris districts, while for female migrants Madras and Chengalpattu districts have higher proportions.

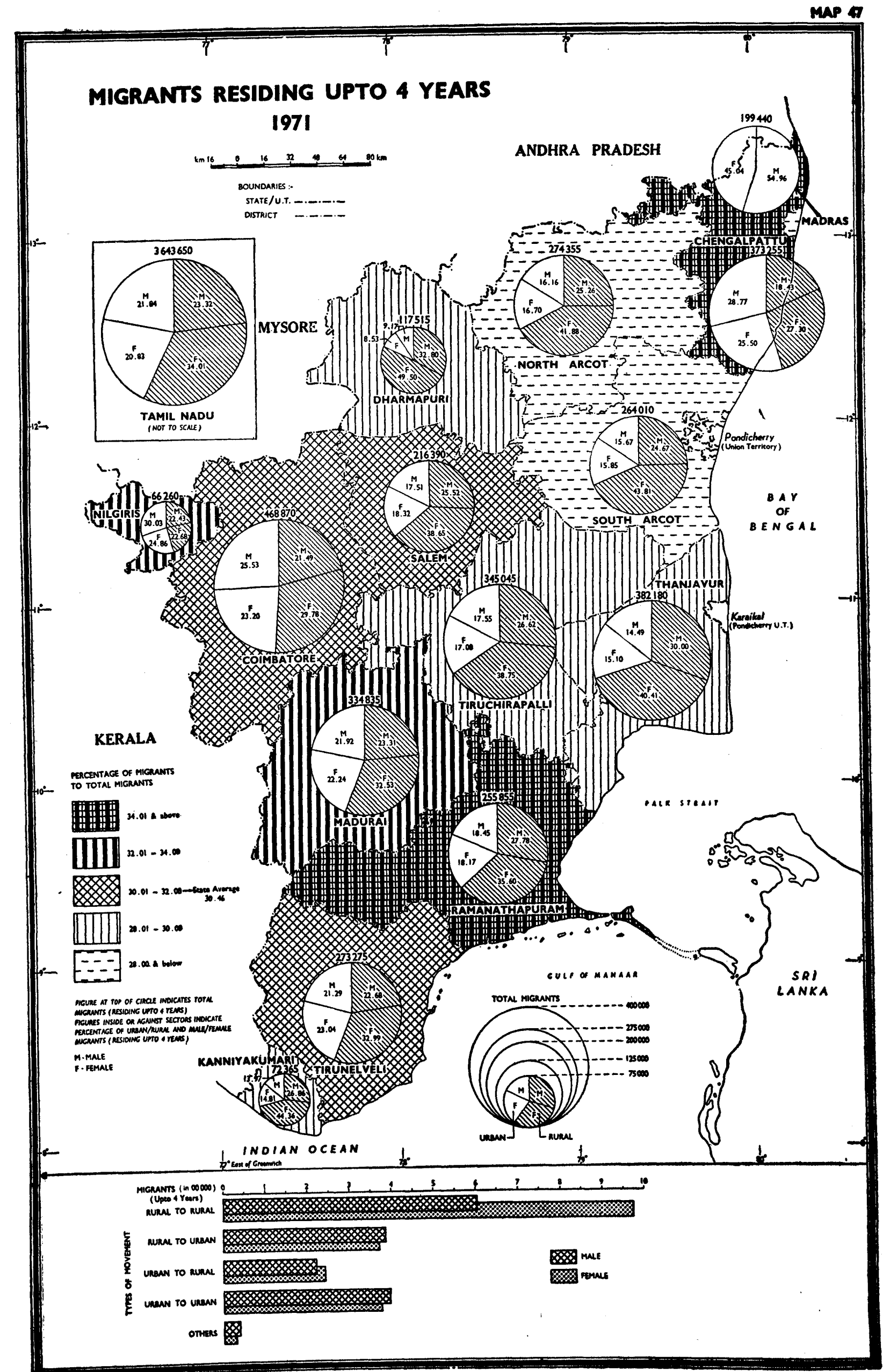
Migrants residing upto 4 years form 30.46 per cent of all migrants in the state. Chengalpattu district shows a very high rate (36.33 per cent) among the districts and the least is in Madras (25.36 per cent). This obviously indicates a lower in migration into Madras in recent years and a higher proportion of recent in-migration into the adjoining Chengalpattu district. The other important areas with high proportion of migrants residing upto 4 years are Ramanathapuram, Nilgiris and Madurai districts.

Data on male and female migrants residing upto 4 years in rural and urban areas of districts and the percentage of such migrants to total migrants are given below :

Unit	Migrants residing upto 4 years				Percentage of migrants residing upto 4 years to all migrants
	Rural		Urban		
	Males	Females	Males	Females	
1	2	3	4	5	6
TAMIL NADU	849,690	1,239,320	795,805	758,835	30.46
Madras			109,620	89,820	25.36
Chengalpattu	68,800	101,880	107,385	95,190	36.33
North Arcot	69,300	114,890	44,340	45,825	27.88
South Arcot	65,130	115,670	41,365	41,845	26.59
Dharmapuri	38,540	58,170	10,775	10,030	28.87
Salem	55,230	83,640	37,890	39,630	30.75
Coimbatore	100,790	139,620	119,690	108,770	31.48
Nilgiris	14,860	15,030	19,895	16,475	33.12
Madurai	78,040	108,930	73,410	74,455	32.99
Tiruchirapalli	91,850	133,720	60,555	58,920	29.05
Thanjavur	114,650	154,430	55,390	57,710	29.00
Ramanathapuram	71,070	91,090	47,210	46,485	34.46
Tirunelveli	61,990	90,150	58,170	62,965	31.62
Kanniyakumari	19,440	32,100	10,110	10,715	29.80

To indicate the types of movement among migrants of 4 years residence in the state as a whole, bar diagrams indicating movement from (i) rural to rural, (ii) rural to urban (iii) urban to rural (iv) urban to urban and

(v) others, are drawn below the main map. The diagrams are presented with distinctions to show males and females among such types or migrants.

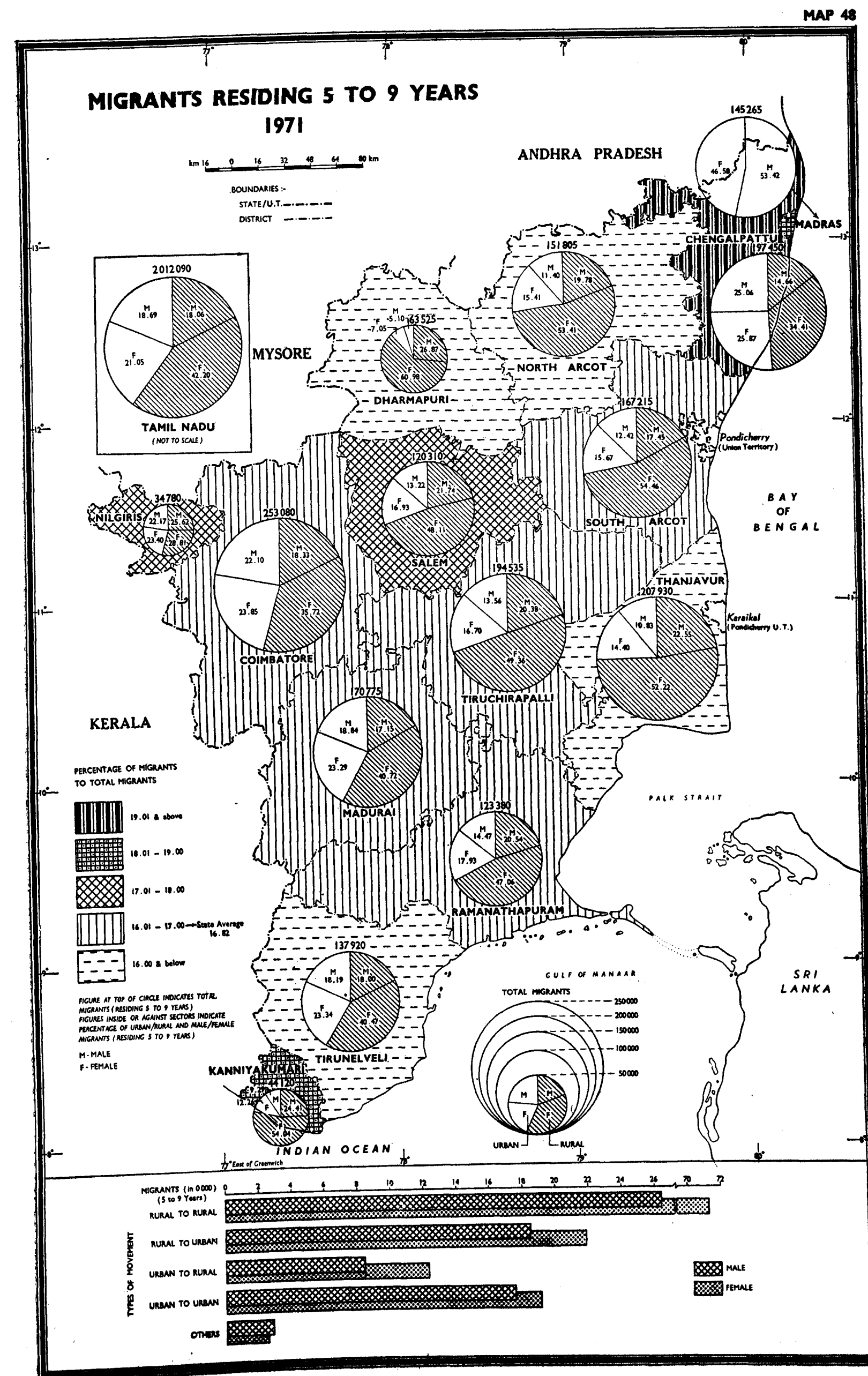


About 88 per cent of migrants with 5-9 years residence in Dharmapuri district are found in rural areas and this proportion is the highest among districts. The other two important districts having high percentages of rural migrants are Kanniyakumari (78.45 per cent) and Thanjavur (74.77 per cent). Madras is fully urban while Chengalpattu has the lowest ratio of 49.07 per cent — the only other district to record less than half of these migrants in rural areas. In all other districts rural migrants are larger than urban migrants. Females among migrants of 5-9 years residence in South Arcot

Male and female migrants (residing for 5-9 years in rural and urban areas as also the percentage of these migrants to total migrants are presented in the following statement.

Unit	Migrants residing from 5-9 years				Percentage of migrants residing for 5-9 years to all migrants
	Rural		Urban		
	Males	Females	Males	Females	
1	2	3	4	5	6
TAMIL NADU	363,450	848,970	376,075	423,595	16.82
Madras	..	..	77,600	67,665	18.47
Chengalpattu	28,940	67,940	49,490	51,080	19.22
North Arcot	30,030	81,070	17,310	23,395	15.42
South Arcot	29,190	91,060	20,765	26,200	16.84
Dharmapuri	17,070	38,740	3,240	4,475	15.60
Salem	26,160	57,880	15,905	20,365	17.10
Coimbatore	46,390	90,400	55,940	60,350	16.99
Nilgiris	8,910	10,020	7,710	8,140	17.38
Madurai	29,280	69,540	32,175	39,780	16.82
Tiruchirapalli	39,640	96,030	26,380	32,485	16.38
Thanjavur	46,900	108,580	22,510	29,940	15.78
Ramanathapuram	25,340	58,060	17,855	22,125	16.62
Tirunelveli	24,830	55,810	25,095	32,185	15.96
Kanniyakumari	10,770	23,840	4,100	5,410	18.17

The types of movement represented here are the same as in the preceding map.



MAP 49

MIGRANTS RESIDING 10 YEARS AND ABOVE 1971

This map depicts migrants residing at the place of enumeration for 10 years and over, their proportion to all migrants (based on last residence) and the percentage distribution of such migrants by males and females as well as rural and urban areas. Based on the proportion of such migrants to all the migrants, all the districts have been grouped into five broad ranges. Data for this map have been culled out from 1971 Census Table D-II.

Out of the total of 11.96 million migrants in the state based on place of last residence, 5.69 million (47.59 per cent) are migrants residing at the place of enumeration for 10 and more years. Thus, we find that migrants with long years of residence in a place other than their last place of residence form the majority of the migrants population. There are three districts which show comparatively high percentage in this regard and these are North Arcot (51.19), South Arcot (51.57) and Dharmapuri (51.31). These are all contiguous districts in the northern region of the State. Kanniyakumari district at the southern end has a good ratio of 49.66 per cent of migrants with residence of 10 years and above. It is significant to note that the above districts except South Arcot are all on the state's border. South Arcot encircles Pondicherry Union Territory. Seven of the fourteen districts have recorded higher percentages than the state as a whole.

As in the case of the previous two maps, here too we find that migrants are more in rural than in urban areas at the state level. Migrants in rural areas (66.60 per cent) form nearly two-thirds of all migrants of 10 years residence and above. Sex wise, females dominate and account for 71.25 per cent of the migrants. Female migrants in rural areas alone form a little over half of the migrants of this category.

In Madras City, male migrants dominate in number and account for 55.45 per cent of all the migrants of 10 years and over residential status. Nilgiris (47.13 per cent) and Coimbatore (35.19 per cent) are also districts with a comparatively high ratio of males among the migrants. The highest proportion for rural male migrants is in Nilgiris (22.24 per cent) and the least is in Tirunelveli district (12.92 per cent). Among urban males, only Madras has recorded the highest ratio of 55.45 per cent while the next highest is in Nilgiris district (24.89 per cent). Dharmapuri district has the lowest ratio of 3.01 per cent of males in urban areas.

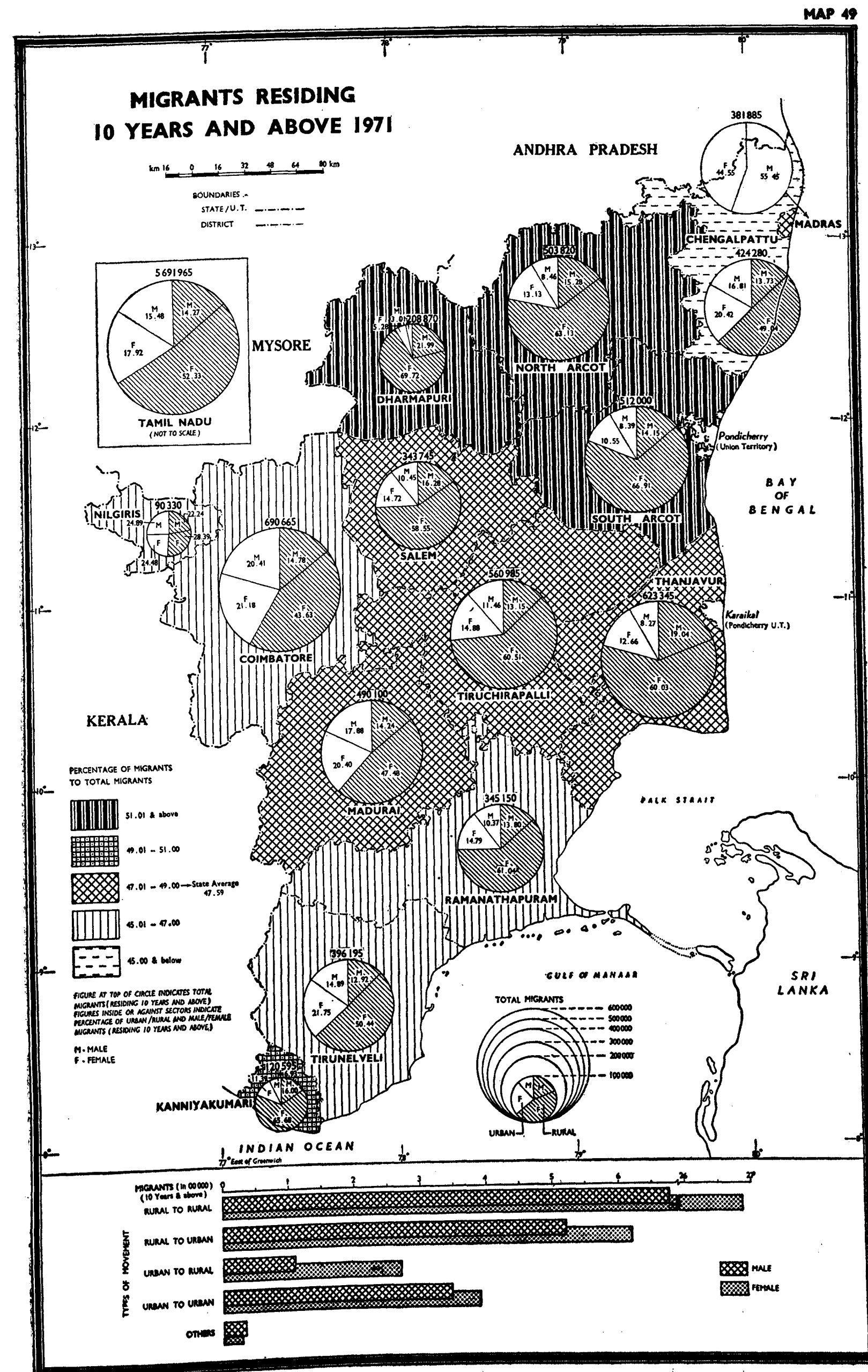
Rural females form the major proportion of migrants of this category. Dharmapuri (69.72 per cent), South Arcot (66.91 per cent) and Kanniyakumari (65.68 per cent) are the districts having very high percentages of females of rural areas alone among the migrants. It is important to remember in this context that these three districts have very poor ratios of urban population in 1971. The other districts having over sixty per cent of rural females among migrant residents of 10 years and above are North Arcot, Tiruchirapalli, Thanjavur and Ramanathapuram which have between 60 to 65 per cent. The least percentage of rural females is recorded in Nilgiris district (28.39 per cent). In the case of urban females, apart from Madras which has 44.55 per cent of the migrants, Nilgiris district has a comparatively high ratio of 24.48 per cent closely followed by Tirunelveli (21.75 per cent) and Coimbatore (21.18 per cent). Here too, the lowest percentage is in Dharmapuri district where only 5.28 per cent of migrants are females in urban areas.

Data on male and female migrants residing for 10 years and above in rural/urban areas and their percentage to total migrants (of all durations) are presented below for state and districts :

Unit	Migrants residing for 10 years and above				Percentage of migrants residing 10 years and above to total migrants
	Rural		Urban		
	Males	Females	Males	Females	
1	2	3	4	5	6
TAMIL NADU	812,050	2,978,690	880,940	1,020,285	47.59
Madras	..	..	211,765	170,120	48.55
Chengalpattu	58,230	208,080	71,330	86,640	41.30
North Arcot	76,980	318,070	42,625	66,145	51.19
South Arcot	72,460	342,590	42,940	54,010	51.57
Dharmapuri	45,920	145,620	6,295	11,035	51.31
Salem	55,950	201,260	35,925	50,610	48.85
Coimbatore	102,060	301,330	140,980	146,295	46.37
Nilgiris	20,090	25,650	22,480	22,110	45.15
Madurai	69,770	232,700	87,645	99,985	48.28
Tiruchirapalli	73,790	339,450	64,280	83,465	47.23
Thanjavur	118,660	374,220	51,520	78,945	47.30
Ramanathapuram	47,630	210,690	35,795	51,035	46.49
Tirunelveli	51,210	199,830	59,000	86,155	45.84
Kanniyakumari	19,300	79,200	8,360	13,755	49.66

Bar diagrams to show the migrants of 10 years residence and over in the state by types of movement

are presented at the bottom of the map.



MAP 50

WORKING AND NON-WORKING MIGRANTS IN CITIES WITH EDUCATIONAL LEVELS 1971

This map shows the working and non-working migrants in cities (including urban agglomerations, with population of 100,000 and above) and are shown by semi-circles drawn proportionate to their strength. There are 16 such urban centres in the State. Certain educational levels among the working and non-working migrants are also depicted in the semi-circular diagrams. Data for this map have been compiled from 1971 Census. Table D-III.

Among the migrants, the non-workers out number workers in all the 16 centres; in seven centres, the non-workers constitute over two-thirds of the migrants. It can be observed that generally the proportion of persons in different educational levels in higher among working migrants than among the non-working migrants.

Working migrants:— In nine of the 16 urban centres, 30 to 40 per cent of working migrants are qualified upto primary and middle level. The highest percentage is in Kumbakonam (46.17) while the least is in Salem (33.17 per cent). The highest percentage of working migrants under 'Matriculation or higher Secondary' among the 16 centres presented in the map, is in Madras City (28.13) which is generally known to be the chief centre of attraction for gainful employment of educated unemployed in the state. The two other centres with over 25 per cent of migrants with such qualification are Cuddalore (26.75 per cent) and Thanjavur (26.53 per cent). Tiruppur with 12.18 per cent and Tuticorin with 13.24 per cent are the only two centres having less than 15 per cent of working migrants with this qualification.

Graduates and those qualified above form the highest per cent in Madras (7.72), closely followed by Nagercoil (7.27 per cent). These are the two important centres where the extent of general literacy also is very high. Very poor ratio of migrant workers qualified as graduates and post-graduates is seen in Tiruppur (1.80

per cent). Over five per cent of working migrants at graduate and above level is recorded in Vellore, Cuddalore, Thanjavur and Tirunelveli, besides Madras and Nagercoil. Literates without educational level is the highest in Nagercoil (18.32 per cent) and it is high in Tiruppur also (15.75 per cent). Illiterates among working migrants in the highest in Tiruppur (33.71 per cent); they form a low ratio in Nagercoil (14.96 per cent). In Madras also, the ratio of illiterates is comparatively low, viz. 17.68 per cent.

Non-working migrants: Among non-working migrants illiterates form sizable proportions. The highest percentage (54.09) is in Tiruppur. Ten out of the sixteen centres have ratios of 40.50 per cent of illiterates. The least ratio is in Nagercoil (29.60 per cent). Migrants who are literates without any educational level range between 12.66 per cent in Madras to 20.46 per cent in Nagercoil. 'Primary and Middle' is also an important qualification in which sizable ratios of non-working migrants are found in the different centres.

Most of the centres have percentages of 30 to 40 while Kanchipuram (29.72) and Tiruppur (24.69) have lower percentages. Comparatively better percentages (viz. over 10 per cent) of non-working migrants with Matriculation and equivalent qualifications are in Madras, Vellore, Madurai, Tiruchirapalli, Thanjavur and Nagercoil. Graduates among non-working migrants are small and form a ratio of 2.30 per cent in Madras. Coimbatore, Madurai, Tiruchirapalli, Tuticorin, Tirunelveli and Nagercoil have one to two per cent of graduates. Very low ratios of graduate level qualified non-working migrants of (0.50 per cent and below) are recorded in Kanchipuram Cuddalore, Erode, Tiruppur and Dindigul.

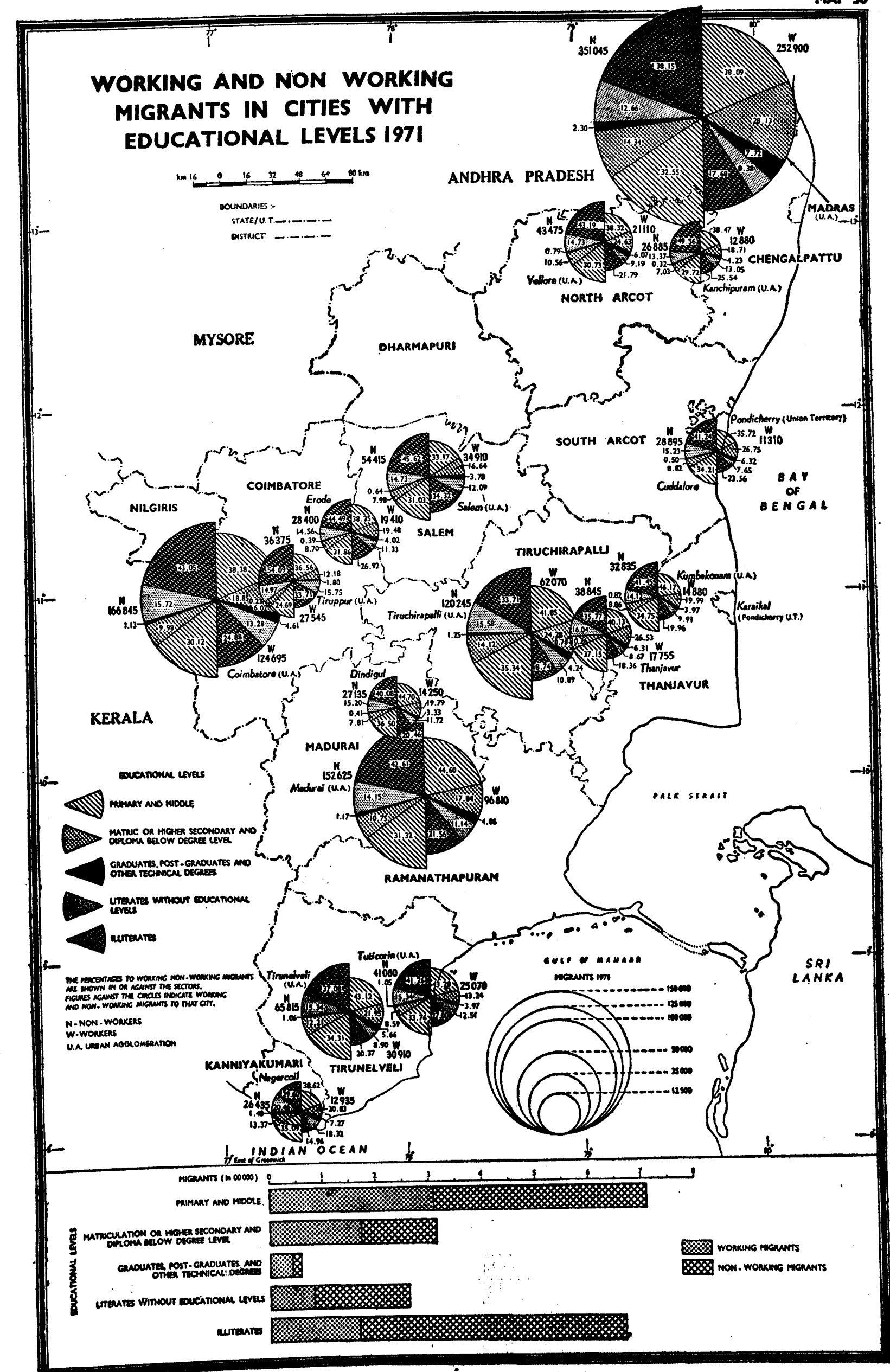
Data on the educational level of migrants in ten urban centres where over 50,000 migrants exist are given below.

Urban centres	Working/ Non-working migrants (W or N)	Educational level				
		Primary and Middle	Matric/ Higher Secondary	Graduate/ Post- graduate	Literate/ without educational level	Illiterate
1	2	3	4	5	6	7
Madras UA	252,900(W)	96,325	71,145	19,530	21,195	44,705
Coimbatore UA	351,045(N)	114,280	50,345	8,055	44,445	133,920
Madurai UA	124,695(W)	47,860	23,500	5,755	16,555	31,025
Tiruchirapalli UA	166,845(N)	50,255	16,645	1,890	26,220	71,835
Tirunelveli UA	96,810(W)	43,180	17,275	4,700	10,780	20,875
Salem UA	152,625(N)	47,800	16,405	1,780	21,605	65,035
Tuticorin UA	62,070(W)	25,975	15,070	2,635	6,760	11,630
Vellore UA	120,245(N)	42,495	16,985	1,500	18,735	40,530
Thanjavur city	30,910(W)	13,330	6,785	1,750	2,750	6,295
Tiruppur UA	65,815(N)	22,580	8,035	700	10,095	24,405
Kanniyakumari	54,415(N)	16,885	4,340	350	8,015	24,825
Dindigul	25,070(W)	10,850	3,320	995	3,135	6,770
Madurai	41,080(N)	13,870	3,530	430	6,300	16,950
Tirunelveli	21,110(W)	8,090	5,200	1,280	1,940	4,600
Coimbatore	43,475(N)	13,360	4,590	345	6,405	18,775
Tiruppur	27,545(W)	10,070	3,355	495	4,340	9,285
Thanjavur	36,375(N)	8,980	2,190	85	5,445	19,675
Kanniyakumari	17,755(W)	7,125	4,710	1,120	1,540	3,260
Tirunelveli	38,845(N)	14,430	3,985	305	6,230	13,895

Bar diagrams for migrants in all cities in the five educational levels as above are also presented at the

bottom of the map where the bars are split up to show the distinctions of working and non-working migrants.

MAP 50



MAP 51

CLASSIFICATION OF WORKING MIGRANTS 1971

This map shows the working migrants by sex classified under the nine broad industrial categories at district level in 1971. Data for this map are taken from the 1971 Census table D-V. Pyramids, indicating the number of working migrants as well as their percentages for males and females, in the nine industrial categories have been drawn in each district. Different hatches of the bars indicate the groupings of the industrial categories under primary, secondary and tertiary activities as per the legends on the map.

At the state level the working migrants are 4.29 millions of whom 65.46 per cent are males and the rest females. Workers belonging to 'Manufacturing', 'Other Services', and 'Trade and Commerce' are in good proportions among males, while among females, 'agricultural labour' and 'cultivator' categories account for most of the workers. Nearly half of the migrant workers (48.80 per cent) are engaged in primary activities, males constituting 22.40 per cent and females 26.40 per cent. Of the 32.77 per cent of the migrant workers engaged in tertiary activities, 27.94 per cent are males and only 4.83 per cent females. Under the secondary sector of activities, males dominate with 15.12 per cent while females form only 3.31 per cent of total migrant workers.

Varying patterns in the migrant's employment pattern in the different industrial categories in various districts are easily noticeable. In Madras, male workers dominate in number and are mainly engaged in tertiary activities, particularly trade and commerce and 'Other Services'. Sizable male workers under the manufacturing sector is also noticed. Workers in the primary activities are insignificant.

Of all the districts, the highest number of male migrants engaged as cultivators is in Thanjavur (48,430). The highest percentage is however in Dharmapuri district where 26.59 per cent of the total working migrants of 139,365 are males, engaged as cultivators. The highest percentage of male agricultural working migrants (18.80 per cent) among districts is in Thanjavur. It is well

known that people from other districts migrate to Thanjavur in view of the large opportunities of jobs in the agricultural sector. Highest ratio of female migrant cultivators (14.56) among the districts is in Dharmapuri while for agricultural labourers, North Arcot district has the highest percentage (28.47). Category III relates to livestock, forestry, fishing, hunting, plantations, orchards and allied activities and the hilly district of Nilgiris stands out distinctly in this category, as plantations, orchardry and forestry are widespread in this district. Of all the migrant workers, males engaged in such activities in Nilgiris constitute 23.27 per cent while females form 27.03 per cent. Thus, over half the migrant workers in this district are engaged in the industrial category III.

In mining and quarrying, we find small proportions among males in South Arcot (3.90 per cent) and Nilgiris (3.92 per cent) districts. The percentages are negligible in other districts for males as well as females. Only male migrants are found in good numbers in the manufacturing sector. The districts with sizable percentages of males in the manufacturing industries are Madras (22.29), Chengalpattu (20.93) and Coimbatore (18.44). Migrant workers in construction are mostly males. The highest percentage of such workers is in Madras city, followed by Chengalpattu district.

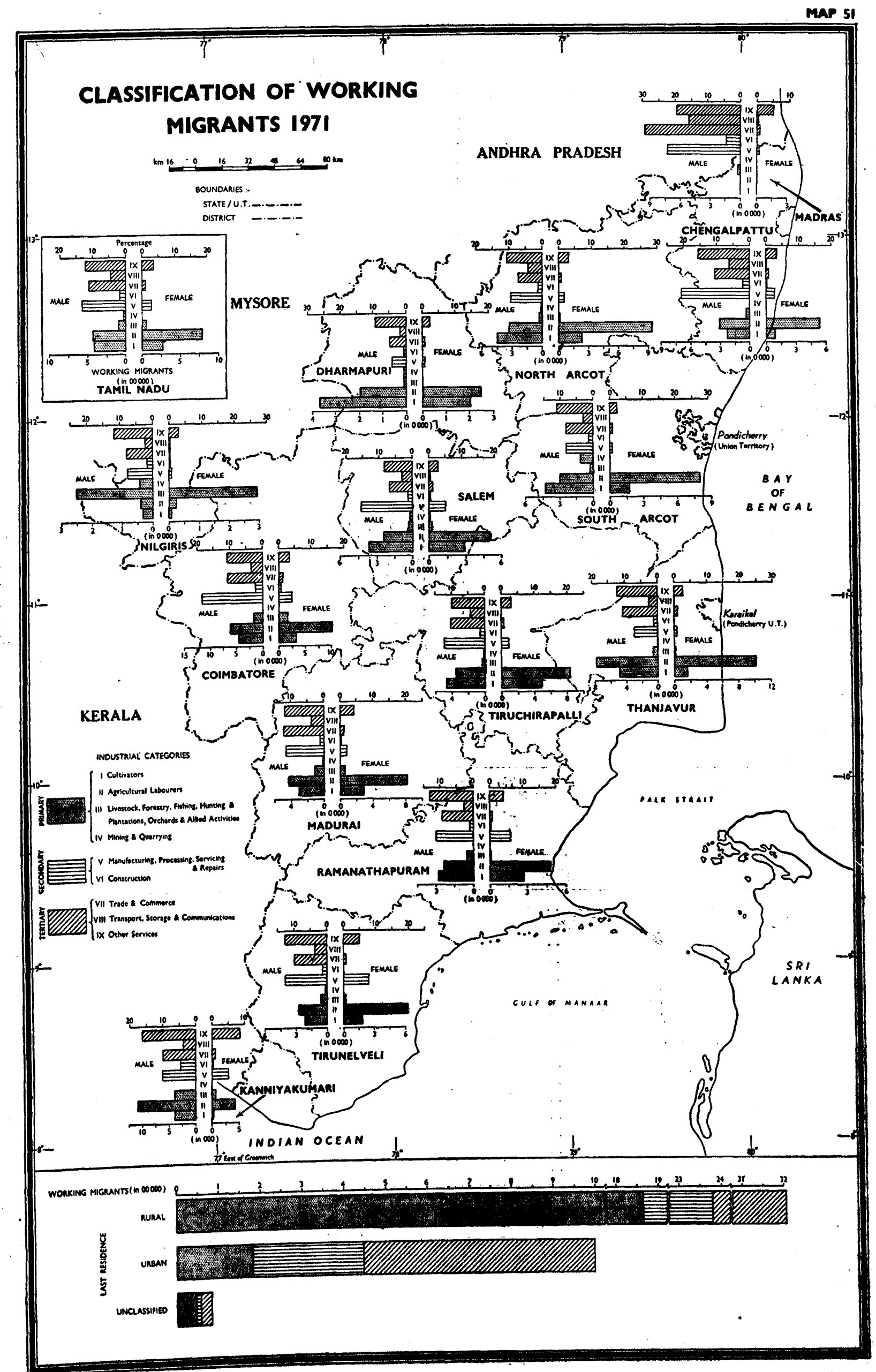
Trade and commerce is an important avocation for migrants and this is high in Madras, which is obvious, as it is the hub of commercial activities in the state. A little over 30 per cent of migrant workers in Madras city are engaged in trade and commerce. In categories VIII and IX relating to transport, storage and communications as also 'Other Services', Madras, again has the highest percentage of workers. In other services, Kanniyakumari district shows the second highest percentage of workers.

The percentage distribution of migrant workers among the primary, secondary and tertiary activities, separately for males and females, is given below :

Unit	Percentage distribution of migrant workers					
	Males			Females		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
1	2	3	4	5	6	7
TAMIL NADU	22.40	15.12	27.94	26.40	3.31	4.83
Madras	1.00	26.53	64.56	0.80	1.07	6.76
Chengalpattu	17.67	22.97	32.57	19.29	2.85	4.65
North Arcot	25.07	10.72	21.86	35.97	2.03	4.35
South Arcot	30.14	9.49	22.16	33.77	0.93	3.51
Dharmapuri	42.05	5.26	16.10	32.47	0.86	3.26
Salem	24.10	17.07	18.65	30.08	5.57	4.53
Coimbatore	20.27	20.57	25.15	24.38	4.78	4.85
Nilgiris	33.82	9.43	21.89	29.95	1.26	3.65
Madurai	21.63	12.93	28.19	29.26	2.40	5.59
Tiruchirapalli	21.36	13.83	24.40	33.54	2.72	4.15
Thanjavur	32.11	8.41	25.88	28.75	1.04	3.81
Ramanathapuram	21.67	12.50	25.03	29.19	6.55	5.06
Tirunelveli	18.27	14.07	26.67	26.59	8.29	6.11
Kanniyakumari	31.11	15.00	30.29	8.53	5.41	9.66

Horizontal bar diagrams showing the migrant workers who have come from rural, urban or unclassified areas as their last residence and engaged in primary, secondary and tertiary sectors of industry are shown below

the main map. The engagement of the majority of migrants from rural areas in the primary sector and those of urban areas in the tertiary sector at the state level can be easily seen from this diagram.



MIGRANTS BY AGE AND MARITAL STATUS 1971

This map shows the marital status of the migrants (based on last residence) belonging to certain broad age-groups for state and districts. The data are presented in the form of vertical bar diagrams, the bars representing the strength of the migrants in the broad age-groups and the components of bars, the marital status categories. Never married, married and widowed/divorced are the three marital status groups shown in the diagram. The age-groups represented are 0-14, 15-19, 20-24, 25-49, 50+ and 'age not stated'. Data for the map have been taken from the 1971 Census Table D-VI.

In the younger age group of 0-14, almost all the migrants are 'never married', and this is only to be expected; there are 8, 110 married and 160 widowed/divorced persons even in this young age group of migrants. North Arcot, South Arcot and Tiruchirappalli districts account for over 1,000 married persons each in this age group.

In the 15-19 age-group in which marriage of girls is widespread, nearly one-third of the migrants are married at the state level. Compared to other districts, the ratio of the unmarried in this age-group is higher in Kanniyakumari and Madras districts. In Coimbatore, Tirunelveli and Nilgiris districts also, over three-fourths of migrants of 15-19 age-group are 'never married'. Only in the districts of Dharmapuri and South Arcot, we find over half the migrants in this age-group 'married'. Widows and divorcees are insignificant in this age-group although at the state level, we find 3,085 widowed/divorced among migrants of this age group.

Over two-thirds of the migrants are married at the state level in the next age group of 20-24. Most of the marriages (both sexes) particularly in the rural areas, take place before the end of 24 years. Higher proportions of 'married' among migrants of the age-group of

20-24, (over three-fourths) are noticeable in the contiguous districts of North Arcot, South Arcot, Dharmapuri and Salem. Early marriages are apparently widespread in these regions, particularly in the backward districts of Dharmapuri as also South Arcot, where urbanisation and literacy are also very low. Madras City is the only district where less than half of the migrants of 20-24 years are 'married'; in all the other districts, the extent of married persons is high in this age-group. There are 13,645 widows/divorcees in the state among such migrants.

Most of the migrants who belong to 25-49 age groups are married. Madras city to which persons of younger ages from other districts migrate in search of educational/employment opportunities, has a higher proportion of unmarried even in this age-group. 'Married' persons account for nearly 90 per cent in this age-group at the state level. Nearly seven per cent of the total migrants in this age-group in the state are widowed/divorced. Comparatively higher ratios of widows are found in South Arcot and North Arcot districts.

Nearly two-fifths are widowed/divorced in the age-group of 50 years and over. There is also a small ratio of 'never married' even in this old age group and this is significantly more (2.65 per cent) in Chengalpattu district than in other districts. Nearly half the migrants of this old-age group (49.56 per cent) are widowed/divorced in South Arcot district and this is the highest among districts. In North Arcot, Tiruchirappalli and Thanjavur districts, sizable ratios (46.47 per cent) in this age-group are widowed/divorced.

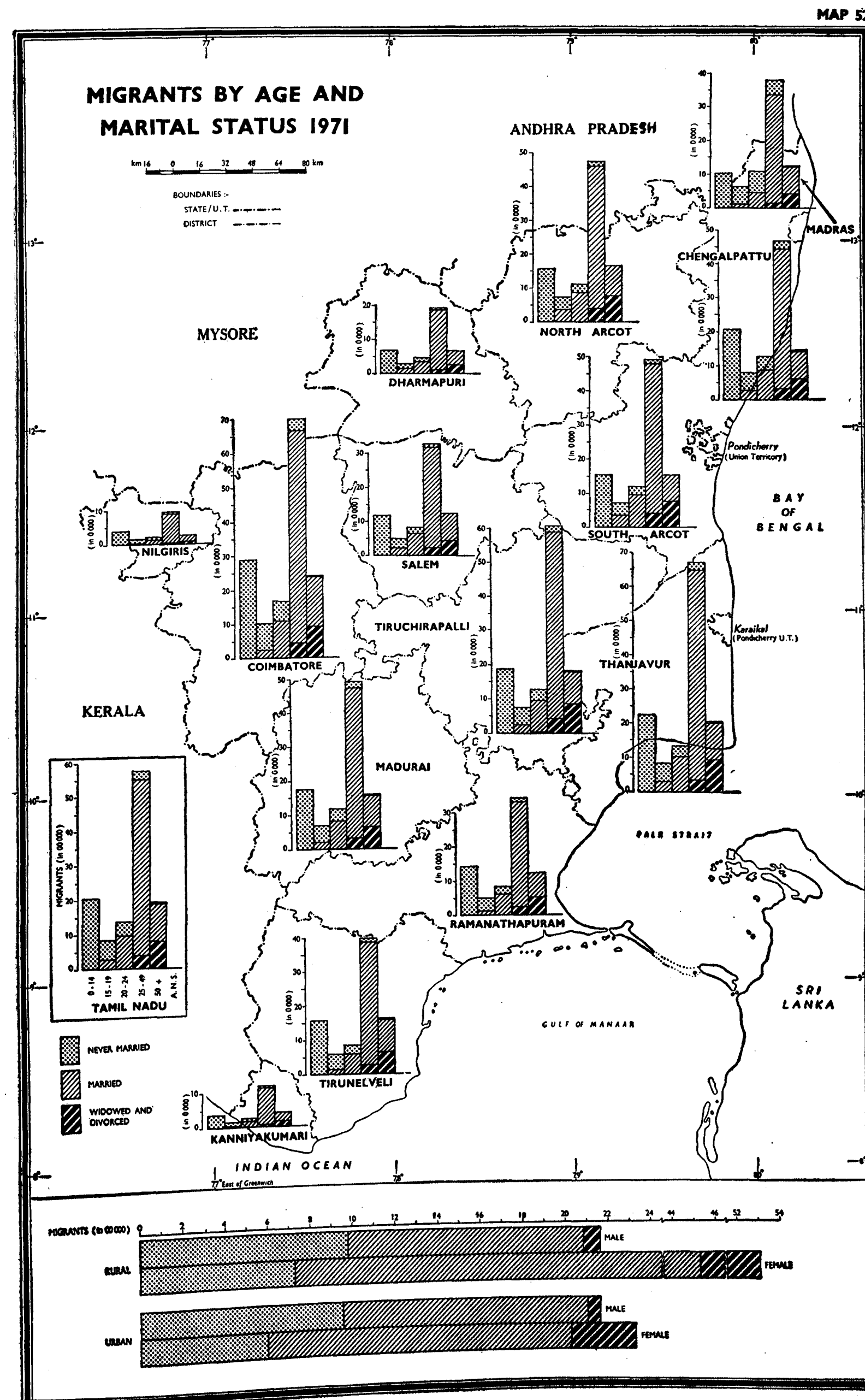
Data on migrants based on last place of residence for state and districts with split-up figures for never married, married, widowed/divorced are given below:

Unit	Total migrants based on place of last residence*	Marital Status		
		Never married	Married	Widowed Divorced
1	2	3	4	5
TAMIL NADU	11,961,460	3,266,190	7,485,215	1,207,975
Madras	786,545	264,460	462,940	59,125
Chengalpattu	1,027,435	327,765	606,370	93,290
North Arcot	984,165	230,765	634,865	118,315
South Arcot	992,735	224,640	648,075	119,290
Dharmapuri	407,090	96,615	271,295	39,180
Salem	703,655	173,670	463,835	66,130
Coimbatore	1,489,525	452,655	900,605	135,355
Nilgiris	200,075	67,290	119,310	13,445
Madurai	1,015,095	276,475	638,335	100,280
Tiruchirappalli	1,187,845	295,105	762,275	130,455
Thanjavur	1,317,765	336,895	839,505	141,360
Ramanathapuram	742,425	212,530	452,860	77,020
Tirunelveli	864,265	242,845	529,325	92,020
Kanniyakumari	242,840	64,480	155,620	22,710

*Figures are inclusive of migrants with unspecified marital status also.

Two component bar diagrams showing migrants in rural and urban areas with male/female break-up as also divisions under each for never married, married and

widowed and divorced are also presented at the bottom of the main map.



7. AGRICULTURE

LAND UTILISATION 1970-71

This map shows the distribution of the geographical area of the state and districts under the various land-use categories. The data for the map relate to the agricultural year 1970-71 (July to June) and have been obtained from the Season and Crop report for 1970-71 released by the Statistics Department of the Govt. of Tamil Nadu. Pie diagrams in proportion to the district area have been drawn showing the different land uses and their percentages.

Of the state's geographical area of 13 million hectares, the net area sown is 6.17 million hectares (or 47.44 per cent). The highest percentage of net area sown is in the agriculturally important district of Thanjavur (63.35). South Arcot (54.45 per cent) and Tiruchirapalli (52.86 per cent) districts situated on the borders of Thanjavur district are the only other districts revealing over half of its total area under 'net area sown'. These districts constitute an important agricultural region of the state. The least percentage of net area sown is revealed by the mountainous district of Nilgiris with 21.34 per cent. Nine districts have percentages of net area sown ranging from 40 to 50.

The extent of area sown more than once and the net area irrigated are also indicated within the diagram representing net area sown. Area sown more than once forms the highest percentage of 27.78 in Thanjavur district where cultivation is a much favoured avocation because of ideal soil and irrigational facilities. The other districts which show good percentages of 'area sown more than once' to total area, are Kanniyakumari (20.06), Chengalpattu (15.33), South Arcot (14.68) and North Arcot (11.24). Nilgiris with 0.11 per cent and Ramanathapuram with 1.09 per cent are the two districts with very low percentages of area sown more than once.

The net area irrigated constitutes 52.34 per cent in Thanjavur district and this is the highest for the districts. The good canal network of the Cauvery delta in this district is a natural advantage and is a contributory factor for this high ratio of irrigated area. Chengalpattu (30.21 per cent), South Arcot (27.49 per cent) and North Arcot (21.50 per cent) are the other districts with comparatively higher percentages of net irrigated area. Nilgiris

reveals negligible extent of irrigated area and has the poorest ratio of 0.19 per cent. Dharmapuri district too has a very low percentage (6.57) of irrigated land.

Current fallows from 7.42 per cent at state level. The highest extent of current fallows is observed in Ramanathapuram district (12.35 per cent). Lower ratios of current fallows (of one to two per cent) are seen in Kanniyakumari and Nilgiris districts.

Culturable waste lands range from 8.46 per cent in Nilgiris to a meagre 0.80 per cent in Dharmapuri district; other fallow lands form a high 11.33 per cent in Tirunelveli district and a low 0.83 per cent in Kanniyakumari district.

Non-farming lands are of four kinds (i) Area not available for cultivation; (ii) Permanent pastures and other grazing lands; (iii) Lands under miscellaneous tree crops and groves; and (iv) Land put to non-agricultural uses. The entire area of Madras City is categorised as 'land under non-agricultural uses'. Next to this high percentage of non-farming lands is noticed in Chengalpattu (38.59) where a number of towns with factories and residential areas have come into existence as suburbs of Madras. South Arcot (28.94 per cent) and Thanjavur (27.33) are the other two districts with over one fourth of their area as 'non-farming' lands. The only district to have less than one-tenth of its area as non-farming lands is Coimbatore (9.70 per cent).

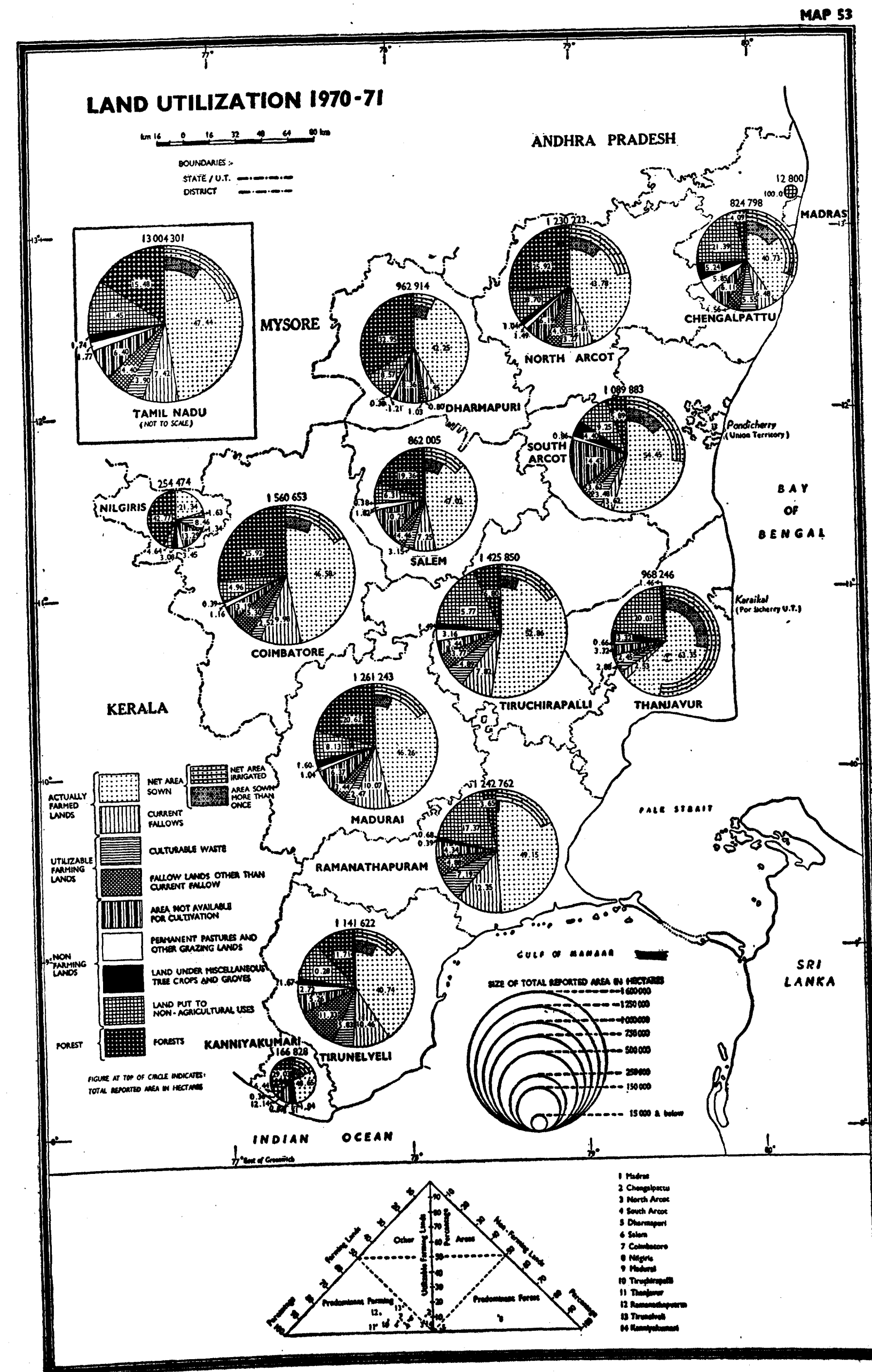
Nilgiris and Dharmapuri districts have higher percentages of forests, viz., 42.77 and 32.95. Large areas in these districts are mountainous and are covered with forests. North Arcot and Coimbatore districts too which have hilly regions of the eastern and western ghats respectively in their area, have each 25.92 per cent of their area under forests. Very low percentages of forest areas are noticed in the eastern coastal districts of Thanjavur (1.46), Ramanathapuram (3.65), Chengalpattu (4.09), South Arcot (5.89) and Tiruchirapalli (6.80).

Data on the total geographical area and its percentage distribution among four broad heads, as indicated in the map legend, are presented below for state and districts:

Unit	Geographical area in hectares	Percentage of			
		Actually farmed lands	Utilisable farming lands	Non-farming lands	Forests
1	2	3	4	5	6
TAMIL NADU	13,004,301	54.86	8.30	21.36	15.48
Madras	12,800	—	—	100.00	—
Chengalpattu	824,798	47.21	10.11	38.59	4.09
North Arcot	1,230,223	49.39	7.27	17.42	25.92
South Arcot	1,089,883	58.07	7.10	28.94	5.89
Dharmapuri	962,914	46.70	1.83	18.52	32.95
Salem	862,005	54.28	7.60	18.76	19.36
Coimbatore	1,560,653	56.56	7.82	9.70	25.92
Nilgiris	254,474	22.97	9.80	24.46	42.77
Madurai	1,261,243	56.33	5.91	17.14	20.62
Tiruchirapalli	1,425,850	60.68	8.66	23.86	6.80
Thanjavur	968,246	65.88	5.33	27.33	1.46
Ramanathapuram	1,242,762	61.50	12.07	22.78	3.65
Tirunelveli	1,141,622	51.20	17.16	19.93	11.71
Kanniyakumari	166,828	49.69	2.34	18.94	29.03

Based on the percentage of land under (a) farming lands, (b) utilisable farming lands and (c) non-farming lands (inclusive of forests) the districts have been plotted in a tripartite diagram shown below the map. It can be observed from this diagram that eight of the fourteen

districts have predominantly farming areas, two have predominance of forests and three with none of the three characteristics above accounting for over 50 per cent of total area. Madras is not shown as it falls entirely under 'non-farming' category.



MAP 54

INTENSITY OF CROPPING 1970-71

This map shows districtwise intensity of cropping during 1970-71. The intensity index for cropping for each district is the percentage of the gross area sown to the net area sown. The figures have been grouped into six ranges and the districts falling under each range have been hatched by choropleth as shown in the legend.

In the state as a whole, the gross area sown in 1970-71 was 7.38 million hectares, while the net area sown was 6.17 million hectares with an intensity index of 119.69 which shows that 19.69 per cent of the net area sown represents area sown more than once. The intensity of cropping is the highest (143.85) in Thanjavur district. Soil fertility and good irrigational facilities in this district have enabled agriculturists to use large areas of land for second and third crops and hence it is no wonder that there is intensive cultivation of lands here as compared to other districts. Kanniyakumari district at the southern end has the next highest index of 141.24 which indicates that 41.24 per cent of the area being sown are used for double or more cropping. Chengalpattu district adjoining Madras city where agriculture is an important avocation shows an index of 137.64. The other agriculture-oriented districts of North Arcot and South Arcot have an index of 125 to 130. The districts of Chengalpattu, North Arcot, South Arcot and Thanjavur which show a higher index, when compared to other districts form a contiguous range.

The lowest index is revealed by Nilgiris district (100.52). This district is mostly mountainous and cultivation is not an important occupation in this district. Ramanathapuram district in the southern region which has poor irrigational facilities and has large areas of dry lands has lesser scope for second/third cropping. The index for this district is only 102.22. Four districts fall under the index range of 108.01-116.00. Two districts fall in the range of 116.01-124.00

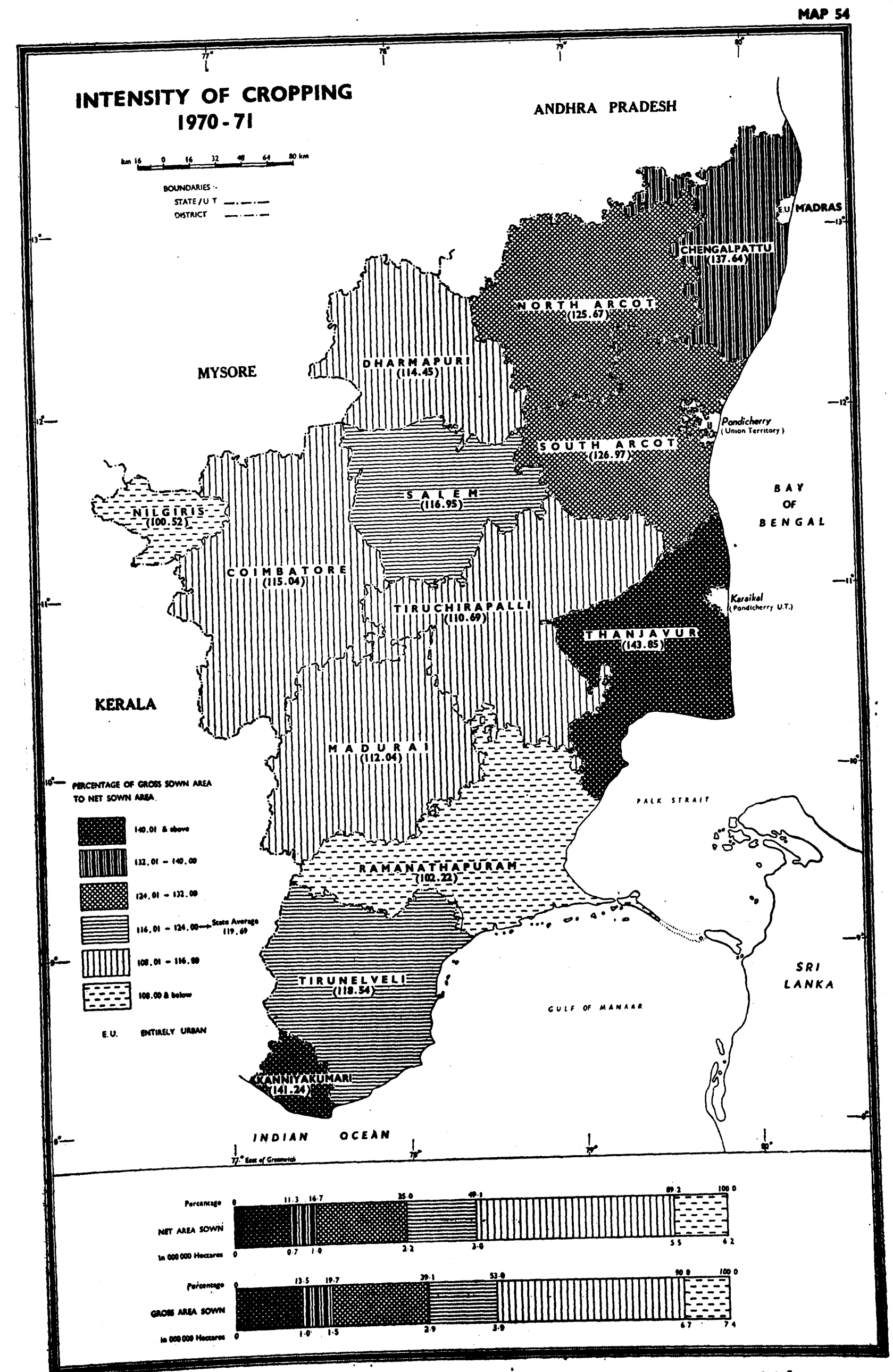
Thanjavur has the largest gross area sown (882,305 hectares) and Nilgiris has the lowest (54,584 hectares).

Tiruchirapalli district has the largest net area sown (753,705 hectares) among the districts.

Data on net sown area and gross sown area 1970-71 and the percentage of the latter to the former (which is the intensity index) are presented below for state and districts.

Unit	Net area sown (Hectares)	Gross area sown (Hectares)	Intensity index percentage of Col.3 to Col.2
1	2	3	4
TAMIL NADU	6,169,173	7,384,006	119.69
Madras	Entirely urban		
Chengalpattu	335,976	462,432	137.64
North Arcot	538,641	676,934	125.67
South Arcot	593,424	753,447	126.97
Dharmapuri	406,858	465,630	114.45
Salem	405,350	474,069	116.95
Coimbatore	726,880	836,192	115.04
Nilgiris	54,300	54,584	100.52
Madurai	583,497	653,748	112.04
Tiruchirapalli	753,705	834,275	110.69
Thanjavur	613,365	882,305	143.85
Ramanathapuram	610,887	624,422	102.22
Tirunelveli	465,136	551,350	118.54
Kanniyakumari	81,154	114,618	141.24

Two horizontal bar diagrams below the map show the area in hectares under net area sown and gross area sown of the districts falling in six ranges as in the map legend (from high to low) along with their percentages in a cumulative manner.



MAP 55

AREA IRRIGATED BY VARIOUS SOURCES 1971

This map shows the percentage of irrigated area to the net area sown as well as the extent of irrigation by different sources—canal, well, tank and others at district level. Based on the percentage of irrigated area, all the 3 districts (excluding Madras which is entirely urban) have been grouped under six broad ranges from high to low, as shown in the legend of the map. The net area irrigated in hectares is represented by a proportionate pie diagram with divisions for the sources of irrigation. Areas sown or irrigated more than once are excluded from this map and only net area has been considered.

At the state level, we find that out of 6.17 million hectares of net area sown, 2.59 million hectares (42.01 per cent) are irrigated. Except four districts, all the districts of the State have lower percentages than the state average. Thanjavur, which is predominantly an agricultural district with fertile soils, shows the highest percentage of irrigated area, viz. 82.62. This is mostly due to the existence of wide net-work of canal irrigation and its location at the deltaic terrain of the Cauvery river. Chengalpattu district has the second highest percentage of irrigated area (74.16 per cent). The two other districts which have also recorded high ratios of irrigated area are South Arcot (50.48 per cent) and North Arcot (49.10 per cent). All the above districts are in the northern region and are contiguous and near the east coast. While Nilgiris shows the poorest extent of irrigation (0.90 per cent) which is attributable to its hilly terrain, the two other districts with poor ratios of irrigated area are Dharmapuri (15.54 per cent) and Salem (29.70 per cent) which have hilly areas and are situated in the plateau area. There are six districts—all contiguous and lying in the southern region—which show poorer irrigated area ranging from 30 to 40 per cent.

Nearly 93 per cent of the irrigated area in Thanjavur district is irrigated by canals. It is the only district of the state to have such a good canal irrigation system, because of which it has achieved a dominant position in agricultural production and has come to be recognised

as the 'granary' of Tamil Nadu. Over 50 per cent of the total canal irrigated area of 883,661 hectares in the state lie in Thanjavur district. Kanniyakumari (with 60.58 per cent), Coimbatore (43.51 per cent), Tiruchirapalli (32.73 per cent) and Madurai (31.35 per cent) are the other districts showing comparatively higher percentage of canal irrigated area. Low extent of canal irrigation is observed in Ramanathapuram (0.17 per cent), Chengalpattu (2.88 per cent) and North Arcot (4.96 per cent) districts while the area under such irrigation is 'nil' in Nilgiris district.

Tank irrigation is the second important source in Tamil Nadu. The districts which have significantly higher ratios of lands irrigated by tanks are Ramanathapuram (84.20 per cent) and Chengalpattu (77.27 per cent). North Arcot and Tirunelveli have 46.56 and 45.98 per cent of their respective irrigated area under tank irrigation. Less than ten per cent of lands under tank irrigation is recorded in Coimbatore and Thanjavur districts while Nilgiris has no area under tank irrigation.

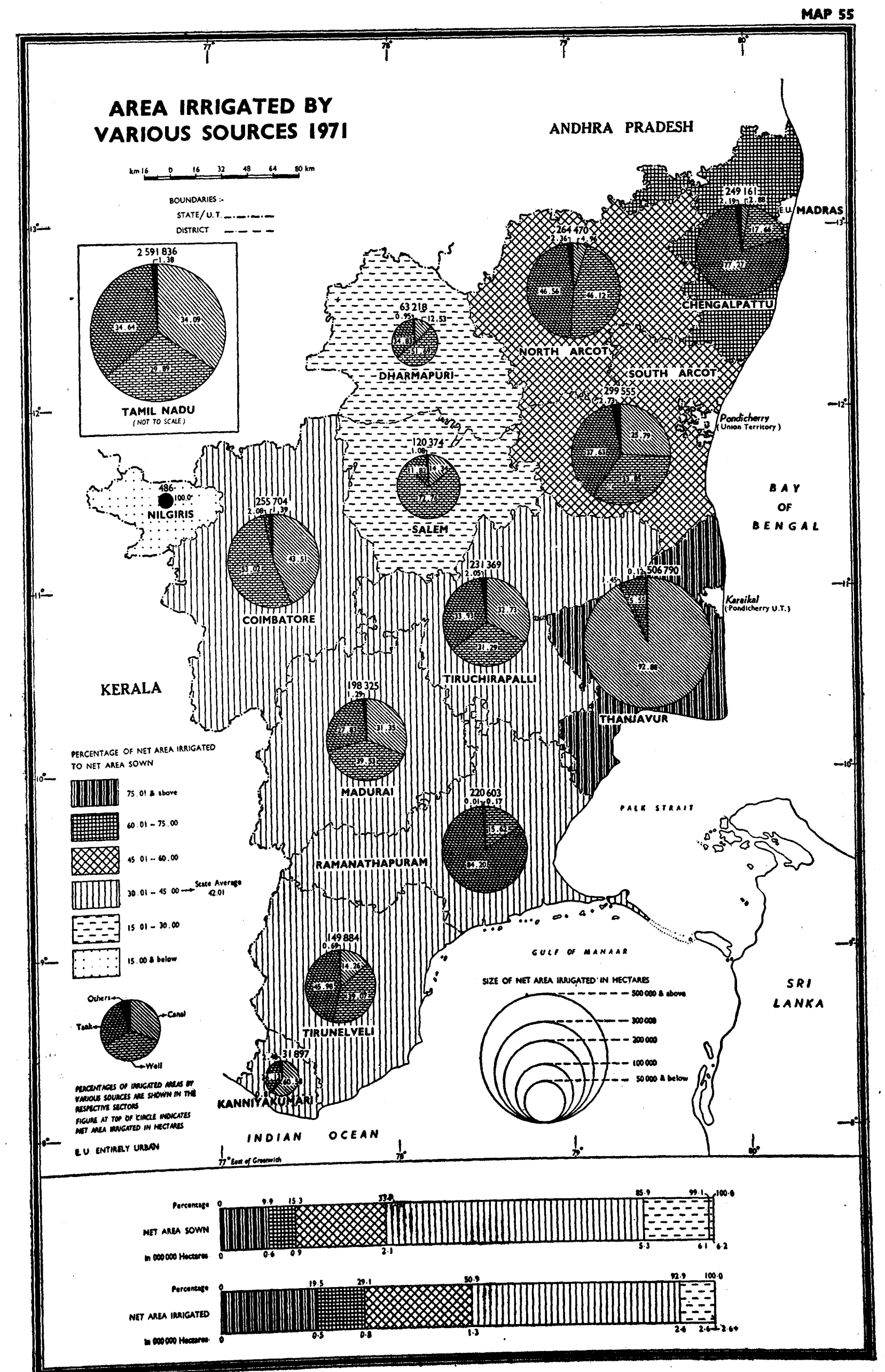
Well is the third prominent source of irrigation and the districts which show significantly higher percentage of area under well irrigation are Salem (72.76), Coimbatore (53.02), Dharmapuri (51.69) and North Arcot (46.12). Very low extent of well irrigation is noticed in Kanniyakumari (0.81 per cent) and Thanjavur (1.45 per cent). The entire irrigated area of 486 hectares in Nilgiris is by sources other than canal, tank and well, discussed above. Other irrigation sources form two to three per cent in Chengalpattu, North Arcot, South Arcot, Tiruchirapalli and Kanniyakumari districts. In other districts, the 'Other' sources of irrigation do not form significant ratios.

The net area irrigated, percentage of irrigated area to net area sown, and the percentage distribution of area irrigated by the four sources discussed above are given below for state and districts.

Unit	Net area irrigated (hectares)	Percentage of net area irrigated to net area sown	Percentage of net area irrigated by			
			Canals	Wells	Tanks	Other sources
1	2	3	4	5	6	7
TAMIL NADU ..	2,591,836	42.01	34.09	29.89	34.64	1.38
Madras ..	—	—	Entirely Urban —			
Chengalpattu ..	249,161	74.16	2.88	17.66	77.27	2.19
North Arcot ..	264,470	49.10	4.96	46.12	46.56	2.36
South Arcot ..	299,555	50.48	25.79	33.85	37.63	2.73
Dharmapuri ..	63,218	15.54	12.53	51.69	34.83	0.95
Salem ..	120,374	29.70	14.34	72.76	11.82	1.08
Coimbatore ..	255,704	35.18	43.51	53.02	2.08	1.39
Nilgiris ..	486	0.90	—	—	—	100.00
Madurai ..	198,325	33.99	31.35	39.53	27.83	1.29
Tiruchirapalli ..	231,369	30.70	32.73	31.29	33.93	2.05
Thanjavur ..	506,790	82.62	92.88	1.45	5.55	0.12
Ramanathapuram ..	220,603	36.11	0.17	15.62	84.20	0.01
Tirunelveli ..	149,884	32.22	14.26	39.07	45.98	0.69
Kanniyakumari ..	31,897	39.30	60.58	0.81	36.13	2.48

The two horizontal bar diagrams below the main map show, in hectares, (i) net area sown and (ii) net area irrigated in the districts falling in the six broad ranges as

shown in the map legend. The actual figures and percentages for each range, from high to low, are indicated in these diagrams in a cumulative manner.



MAP 56

GROSS VALUE OF AGRICULTURAL OUTPUT PER CULTIVATING HOUSEHOLD 1970-71

This map shows the average gross value of agricultural output in rupees for each cultivating household at district level.

Data on cultivating households have been collected from the Census houselisting data of 1970 while the output of agricultural products and their gross value as during 1970-71 have been obtained from the Department of Statistics. The agricultural products included for this purpose are the cereals, pulses, oilseeds, sugar and cotton. Plantations like tea, coffee, rubber, tobacco, etc. and cocoanut have not been considered for calculating the values. Based on the annual average value, all the districts have been grouped into six broad ranges, as in the map legend.

A cultivating household has been defined in Census to 'possess one or more persons in the household who are engaged in cultivation of land or supervision or direction of cultivation of land owned or held from Government or from private persons or institutions for payment in money, kind or share'.

The granary of Tamil Nadu viz. Thanjavur district, situated in the deltaic region of Cauvery river on the east coast and possessing fertile soil so suitable for paddy cultivation, has naturally come out with the highest value of Rs. 3,502 per household among all the districts. This district forms part of the Intensive Agricultural Development Programme being implemented by the Government of India in a few selected districts in the country. Chengalpattu district surrounding Madras city has the second highest figure of Rs. 2,947 per cultivating household. This district lies in a fertile area with facilities of well/tank irrigation unlike Thanjavur which possess a good net-work of canals. Coimbatore district in the western part of the state with an annual value of Rs. 2,907 comes out as the third district with a high average per cultivating household. This high value here may be attributable to the industrialisation and the quick adoption of modern farm techniques by the enterprising cultivators of this region. North Arcot in the northern region and Kanniyakumari at the southern tip of the state also have reasonably good average returns of Rs. 2,200 - 2,500 per cultivating household. The state average return of Rs. 2,087 per cultivating household during 1970-71 has been exceeded by seven of the 13 districts, leaving Madras which is fully urban.

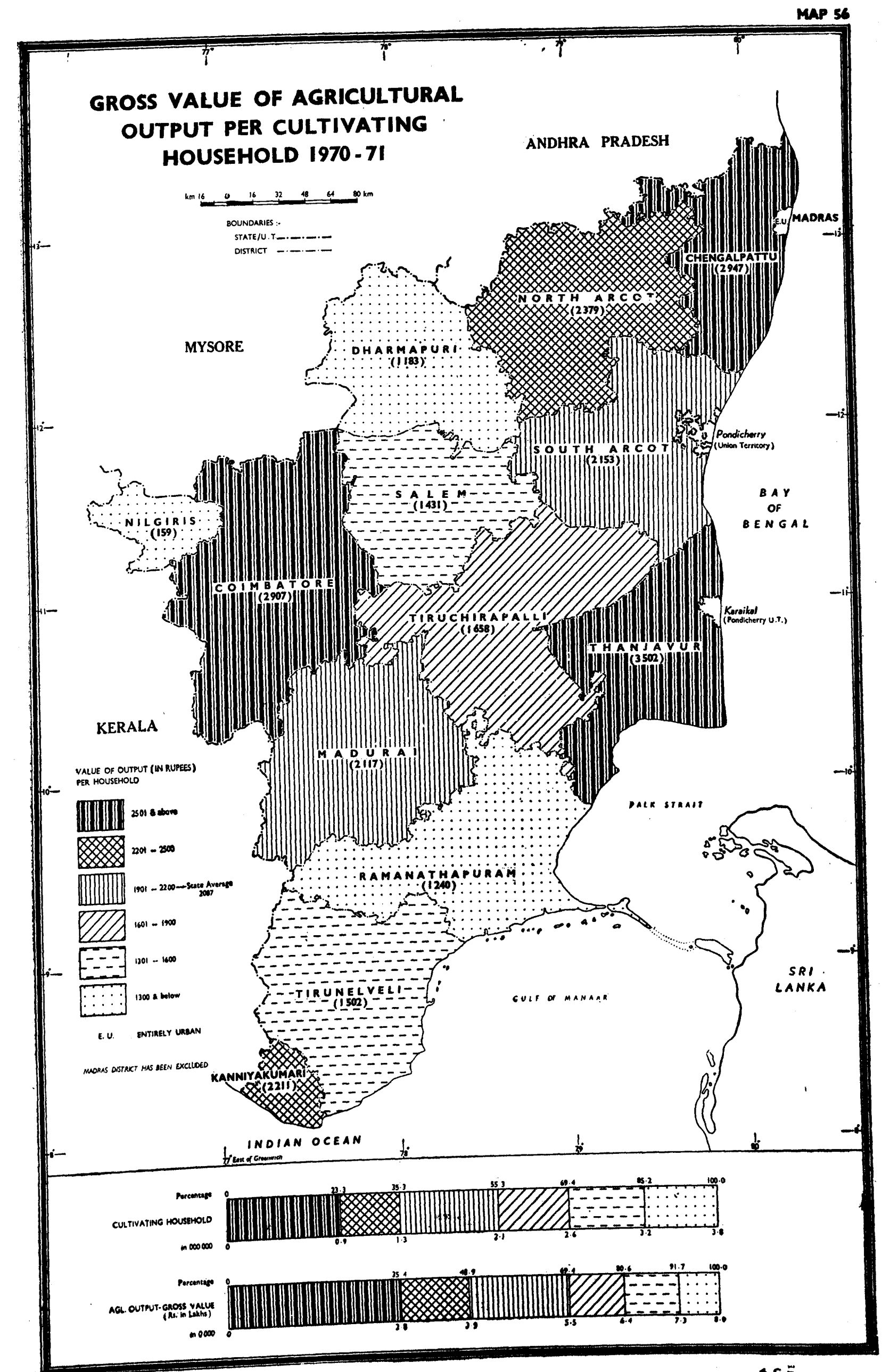
The mountainous district of Nilgiris has recorded the lowest return of Rs. 159 per cultivating household. This is understandable as there are no large agricultural tracts in this district and only plantations, orchardry vegetable-growing, etc. are widespread here. The dry districts with none-too-good irrigation facilities viz. Dharmapuri (Rs. 1,183) and Ramanathapuram (Rs. 1,240) have recorded very low values.

Data on the number of cultivating households, gross value of agricultural output in 1970-71 and the gross value per cultivating household are furnished below for state and districts.

Unit	No. of cultivating households	Gross value of agricultural output 1970-71 (in lakhs of rupees)	Gross value per cultivating household (in rupees)
1	2	3	4
TAMIL NADU	3,811,095*	79,520.23	2,087
Madras	Entirely urban		
Chengalpattu	232,180	6,842.54	2,947
North Arcot	387,185	9,211.06	2,379
South Arcot	443,145	9,542.64	2,153
Dharmapuri	206,585	2,444.55	1,183
Salem	297,870	4,262.89	1,431
Coimbatore	290,625	8,449.35	2,907
Nilgiris	24,475	38.80	159
Madurai	320,975	6,794.21	2,117
Tiruchirapalli	535,145	8,874.34	1,658
Thanjavur	366,850	12,847.07	3,502
Ramanathapuram	333,995	4,142.85	1,240
Tirunelveli	304,190	4,569.40	1,502
Kanniyakumari	67,875	1,500.53	2,211

*Madras district has been excluded.

The horizontal bar diagrams below the main map show (i) area in km² and (ii) value of agricultural output in lakhs of rupees of the districts under the six ranges (from high to low values) as on the map. The percentages and actual figures in cumulative terms for each range are also marked on these diagrams.



AGRICULTURAL HOLDING PER CULTIVATING HOUSEHOLD 1971

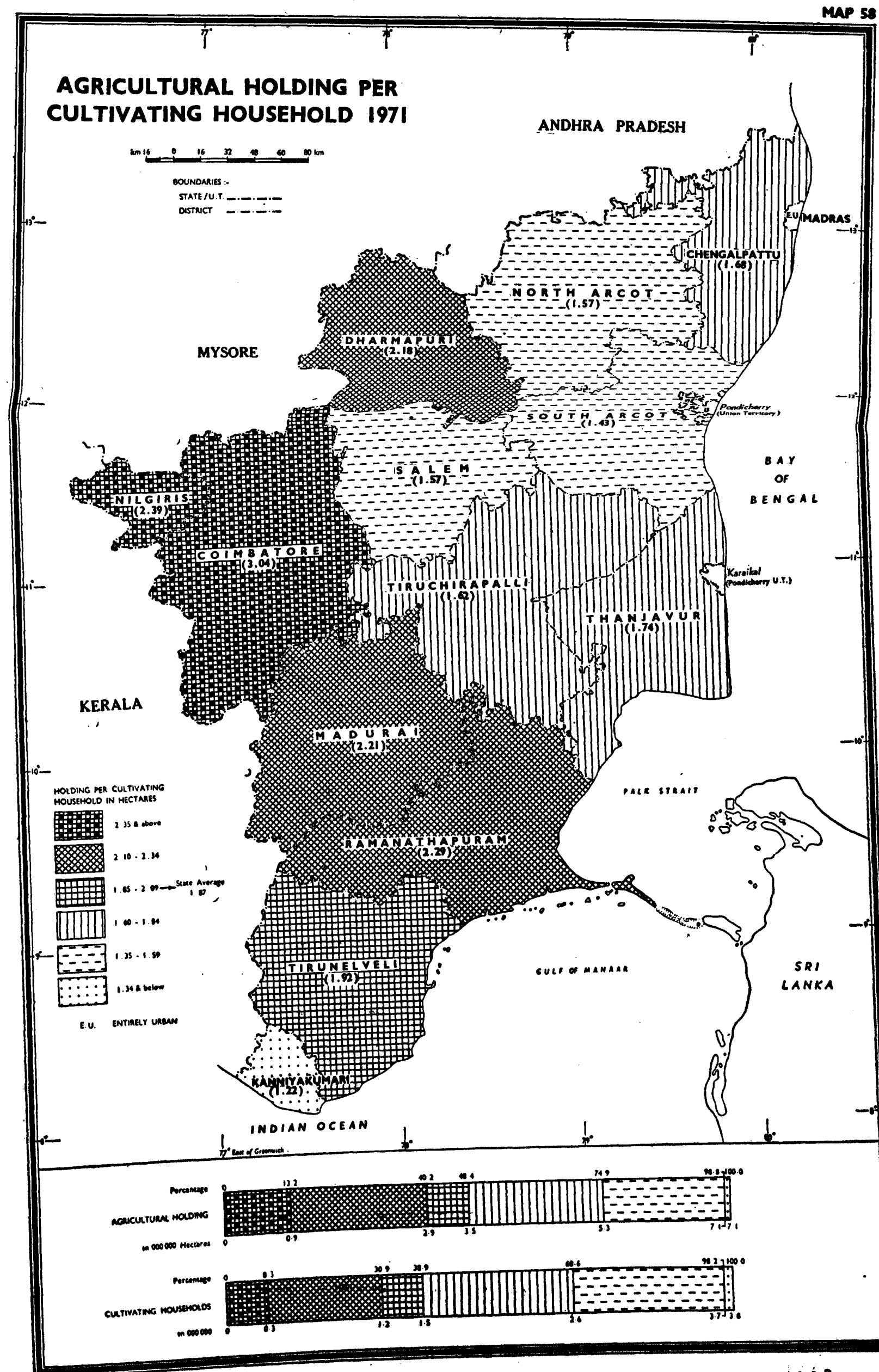
This map shows the extent of agricultural land held on an average by each cultivating household at the district level. "Agricultural holding" refers to the net area sown including current fallows in 1970-71 in hectares. The data is supplied by the Department of Statistics of the Government of Tamil Nadu. Data on cultivating households relate to census houselisting of 1970 in which such information was gathered. Based on the ratio of land held by each cultivating family, the 13 districts of the state (all except Madras which is entirely urban) have been grouped into six broad ranges as shown in the map legend.

The state has 7.13 million hectares of agricultural land of which 0.96 million hectares are "current fallows". The number of cultivating household is 3.81 million. Thus the average holding per household is 1.87 hectares. Coimbatore, the largest in area of all the districts in the state reveals the highest holding of 3.04 hectares per cultivating household. No other district has over three hectares of land per household. The small hilly district of Nilgiris, adjoining Coimbatore has the second highest average holding, viz. 2.39 hectares per household. Ramanathapuram (2.29 hectares), Madurai (2.21 hectares) and Dharmapuri (2.18 hectares) districts are the three other districts of importance from the point of view of comparatively large holdings per cultivating family. Apart from these five districts, the one other district which shows a higher ratio than the state average is Tiruchirapalli (1.62 hectares). The smallest district in the state, viz. Kanniyakumari has the small holding of only 1.22 hectares per family. The second lowest holding is recorded in South Arcot district which is agriculturally dmoinant. In Thanjavur district, the state's granary where lands are fertile and cultivation is the most important avocation, the average holding is only 1.74 hectares. The adjoining prosperous Tiruchirapalli district reveals holding of 1.62 hectares per family.

Data on agricultural land, number of cultivating households and the holding per cultivating household are presented below for state and districts.

Unit	Agricul- tural land in hectares	Cultivating household	Holding per cultivating household in hectares
1	2	3	4
TAMIL NADU	7,133,813	3,811,095	1.87
Madras	Entirely urban		
Chengalpattu	389,406	232,180	1.68
North Arcot	607,618	387,185	1.57
South Arcot	632,917	443,145	1.43
Dharmapuri	449,652	206,585	2.18
Salem	467,876	297,870	1.57
Coimbatore	882,621	290,625	3.04
Nilgiris	58,448	24,475	2.39
Madurai	710,460	320,975	2.21
Tiruchirapalli	865,183	535,145	1.62
Thanjavur	637,834	366,850	1.74
Ramanthapuram	764,349	333,995	2.29
Tirunelveli	584,556	304,190	1.92
Kanniyakumari	82,893	67,875	1.22

Two bar diagrams drawn horizontally below the main map show agricultural holdings in hectares and number of cultivating households of the districts falling under the six ranges from high to low as in the map legend respectively. The cumulative figures and percentages for each range are also indicated in these diagrams.



MAP 59

AGRICULTURAL HOLDING PER CAPITA IN RURAL AREAS 1971

This map shows variations in the per capita agricultural holding in the rural areas of the districts. The 'agricultural holding' refers to the proportion of the land under 'net area sown' and 'current fallows' to the 1971 rural population and shaded in five ranges as per the legend of the map. This excludes Madras district due to its urban character.

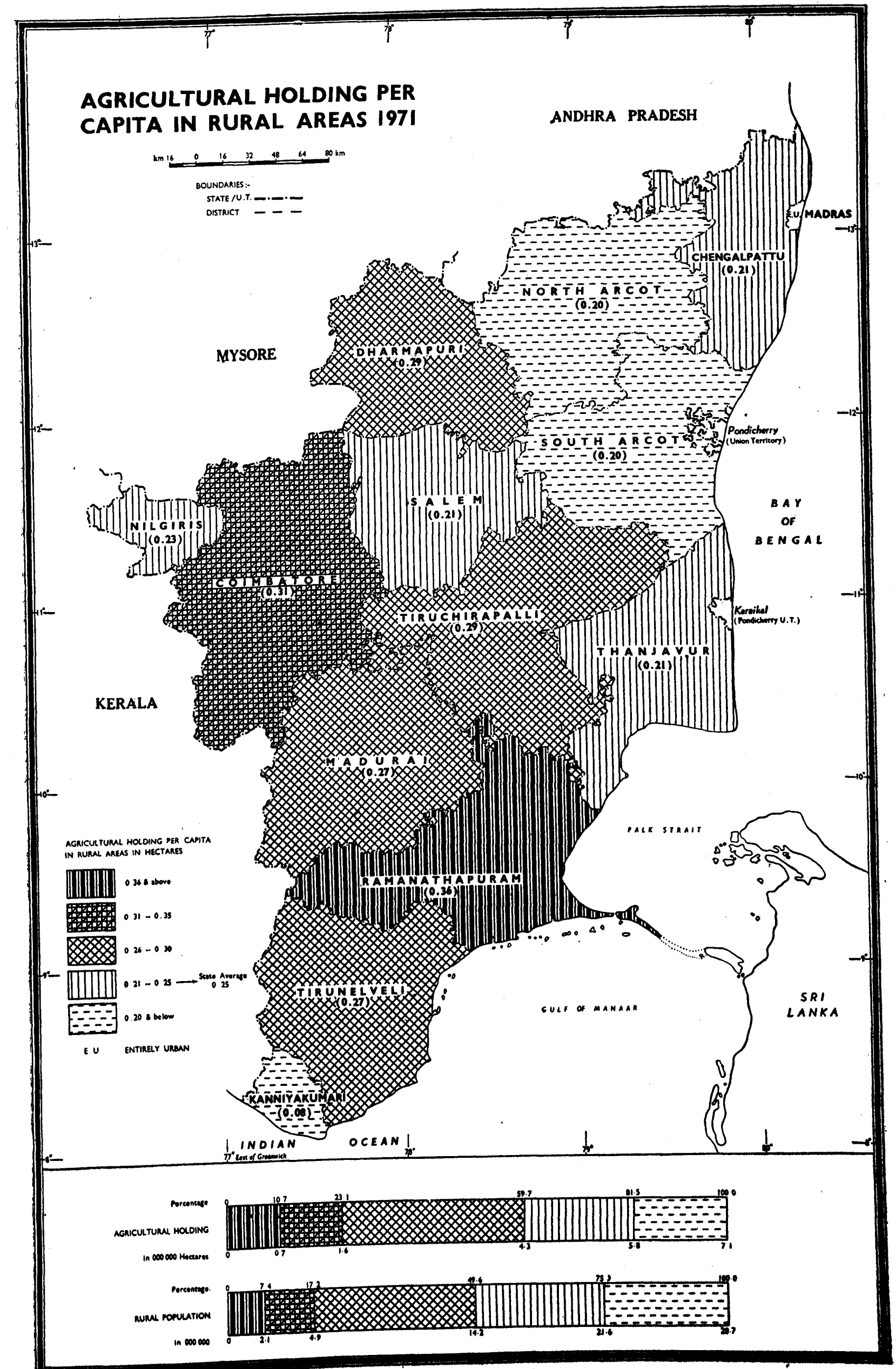
While the state's rural population as per 1971 census is 28.73 million the net area under cultivation including current fallows in the entire state is 7.13 million hectares. The average per capita holding for the state is 0.25 hectare. Of the 13 districts excluding Madras six have higher per capita agricultural holding than the state average while the other seven have a lower per capita holding. The highest per capita holding is found in Ramanathapuram district with 0.36 hectare. Coimbatore district which has also a high ratio shows an average per capita holding of 0.31 hectare. Kanniyakumari district has only 0.08 hectare of land per capita. The coastal and agriculture-oriented districts of Chengalpattu, South Arcot and Thanjavur as also the interior districts of North Arcot and Salem all lying in the northern and north-western part of the state have low per capita holding of about 0.20 hectare. The hilly western district of Nilgiris has a low per capita holding 0.23 hectare.

The extent of agricultural holding in the districts, the 1971 census rural population and the per capita holding are given below:—

Unit	Agricul- tural land in hectares*	Rural population 1971	Per capita holding in hectare
1	2	3	4
TAMIL NADU	7,133,813	28,734,334	0.25
Chengalpattu	389,406	1,896,909	0.21
North Arcot	607,618	2,972,702	0.20
South Arcot	632,917	3,104,726	0.20
Dharmapuri	449,652	1,533,834	0.29
Salem	467,876	2,197,234	0.21
Coimbatore	882,621	2,816,936	0.31
Nilgiris	58,448	250,780	0.23
Madurai	710,460	2,614,003	0.27
Tiruchirapalli	865,183	2,991,808	0.29
Thanjavur	637,834	3,052,694	0.21
Ramanathapuram	764,349	2,113,545	0.36
Tirunelveli	584,556	2,171,019	0.27
Kanniyakumari	82,893	1,018,144	0.08

*Source: Season and Crop Report, Govt. of Tamil Nadu, 1970-71.

The agricultural holding and the rural population of the districts falling in the five ranges depicted in the map are shown in the two diagrams below the map along with the actual figures and the percentages.



MAP 60

AGRICULTURAL HOLDING PER MALE CULTIVATOR 1971

This map shows the extent of agricultural land in hectares per male cultivator as at 1971 for the districts. As in the previous map, data on agricultural land relates to the 'net area sown' and 'current fallows' and these have been obtained from the Directorate of Statistics of the State Government. The land in hectares per male cultivator is depicted in six broad ranges for all districts except the city district of Madras.

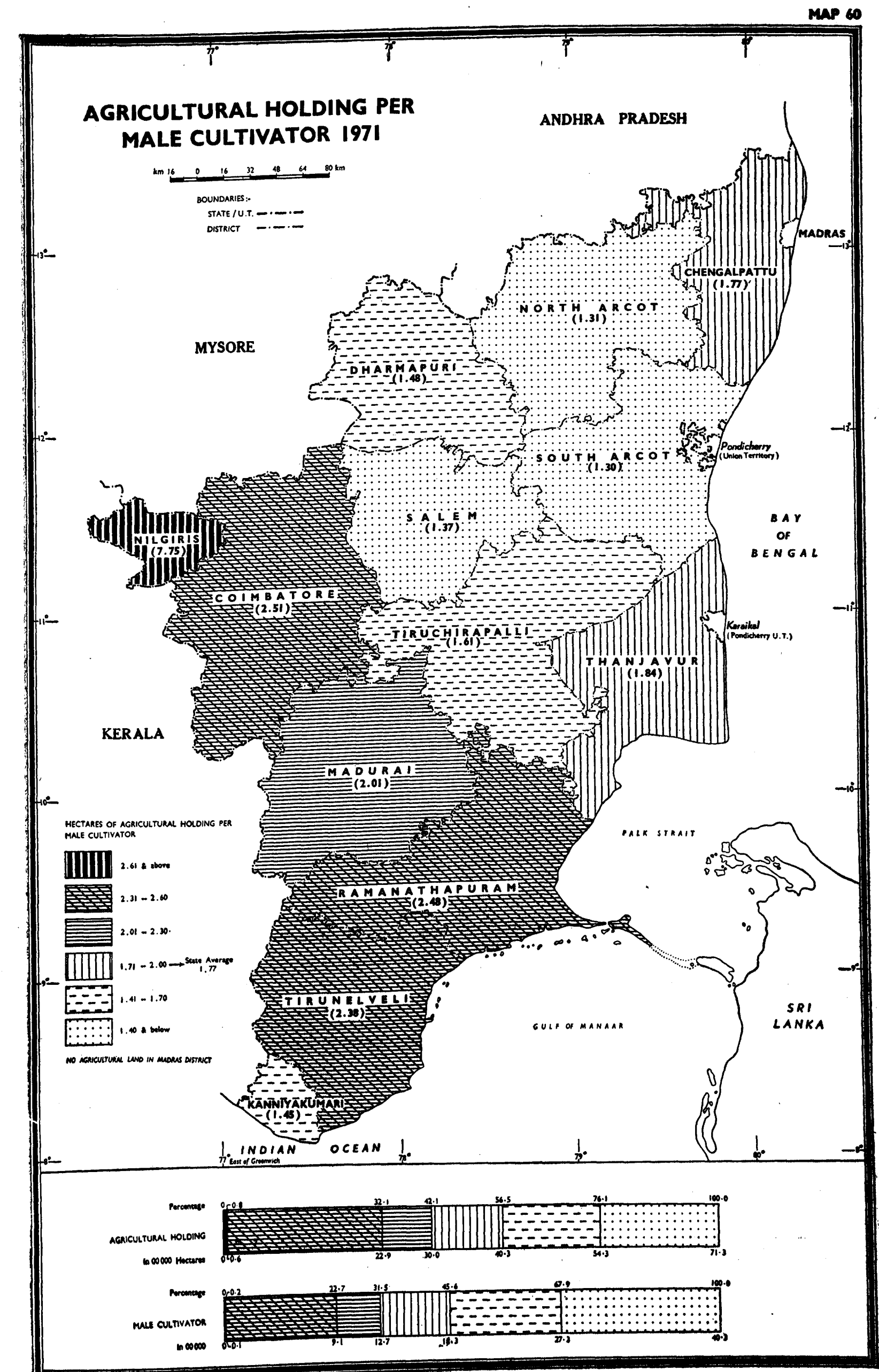
Cultivators are predominantly males. Out of 4.61 million cultivators in the state 4.03 million are males. The area of agricultural lands in the state is 7.13 million hectares. The average agricultural land per male cultivator is 1.77 hectares. There are six districts which have a higher per capita holding than 1.77 hectare while Chengalpattu district has the same rate as the state average. In the hilly Nilgiris district where plantations and orchards are predominant, there are only 7,541 male cultivators and thus the average holding is the highest here with 7.75 hectares. The other districts with larger holdings per male cultivator are Coimbatore (2.51 ha) Ramanathapuram (2.48 ha), Tirunelveli (2.38 ha) and Madurai (2.01 ha). Thus, the five districts from Nilgiris to Tirunelveli lying contiguous in the western and southern region of the state have comparatively high holdings of agricultural land per male cultivator. With lowest ratios ranging from 1.30 to 1.50 hectares, South Arcot, North Arcot, Dharmapuri and Salem form a characteristic region in the northern part of the state.

The extent of agricultural land, number of male cultivators and the holding per male cultivator for state and districts are given below:—

Unit	Agricultural land in hectares 1970-71	Male Culti- vators 1971	Agricultural hold- ing in hectare per male culti- vator
1	2	3	4
TAMIL NADU	7,133,813	4,025,591 ×	1.77
Madras	..	987	..
Chengalpattu	389,406	220,494	1.77
North Arcot	607,618	462,730	1.31
South Arcot	632,917	488,240	1.30
Dharmapuri	449,652	304,574	1.48
Salem	467,876	342,725	1.37
Coimbatore	882,621	351,182	2.51
Nilgiris	58,448	7,541	7.75
Madurai	710,460	353,120	2.01
Tiruchirapalli	865,183	536,695	1.61
Thanjavur	637,834	347,515	1.84
Ramanathapuram	764,349	308,207	2.48
Tirunelveli	584,556	245,242	2.38
Kanniyakumari	82,893	57,326	1.45

× Figures for Madras are not included.

The two bar diagrams below the main map show (i) agricultural land in hectares and (ii) number of male cultivators in the districts falling under six ranges from high to low. Actual figures and percentages for each range are given cumulatively in these diagrams.



MAP 61

PER ADULT REQUIREMENT AND SUPPLY OF STAPLE FOOD CROPS
(CEREALS AND PULSES) 1971

This map shows the percentage of availability of staple food crops to actual requirement, calculated for every adult unit in terms of calories per year. The map is presented at the district level and all the districts (except Madras which is a fully urban) have been grouped under five ranges, one under 'surplus' and four under 'deficit'.

For working out the requirement, the 1971 population of the districts has been taken into account and the caloric value adopted for adult unit was 17 ozs. or 485 grams of cereals and pulses (rice, wheat, jowar, bajra, maize, ragi, pu'ses and grams). The calorie requirement was taken as 2,400 for all adolescents of 15-19 years as well as males of over 19 years, 2,160 calories for adults females of over 19 years, 2,040 calories for children of 10-14 years, 1,560 calories for children of 5-9 years and 1,080 calories for those in 0-4 age-group. The supply has been worked out on the basis of the average annual gross production of the above cereals and pulses in each district of five years (1966-67 to 1970-71). The caloric value adopted for working out the supply (for 100 grams in each case) are 348 calories for rice and wheat, 356 for jowar and bajra, 342 for maize, 345 for ragi, 350 for gram and 340 for other pulses. The caloric values which have been used here are in accordance with the recommendations made in "The Nutritive value of Indian Foods and the Planning of Satisfactory Diets", Special Report Series No. 42 by W.R. Aykroyd, Indian Council of Medical Research, New Delhi.

For an adult unit, the average annual requirement of cereals and pulses works out to 876,000 calories (2,400 calories x 365 days). The supply, at the state level, however is only 550,887. This shows that the percentage of availability in Tamil Nadu is only 62.89. The only district in the state where the percentage of availability is more than the equilibrium of 100 is Thanjavur. This district has an agriculture-based economy and its higher agricultural production has made it possible to recognise it as the 'granary' of Tamil Nadu. This surplus district has a percentage availability of 126.13 of calorie per adult per annum. All the other districts in the state show deficit values.

Chengalpattu district with a percentage of 95.53 is the district which is very near the equilibrium of supply and requirement. South Arcot district too reveals a fairly high ratio of 86.22 per cent. These two are agriculture oriented districts. The other important districts which are predominantly agricultural in character and have a comparatively higher percentages of calorie availability (of cereals and pulses) are Tiruchirapalli

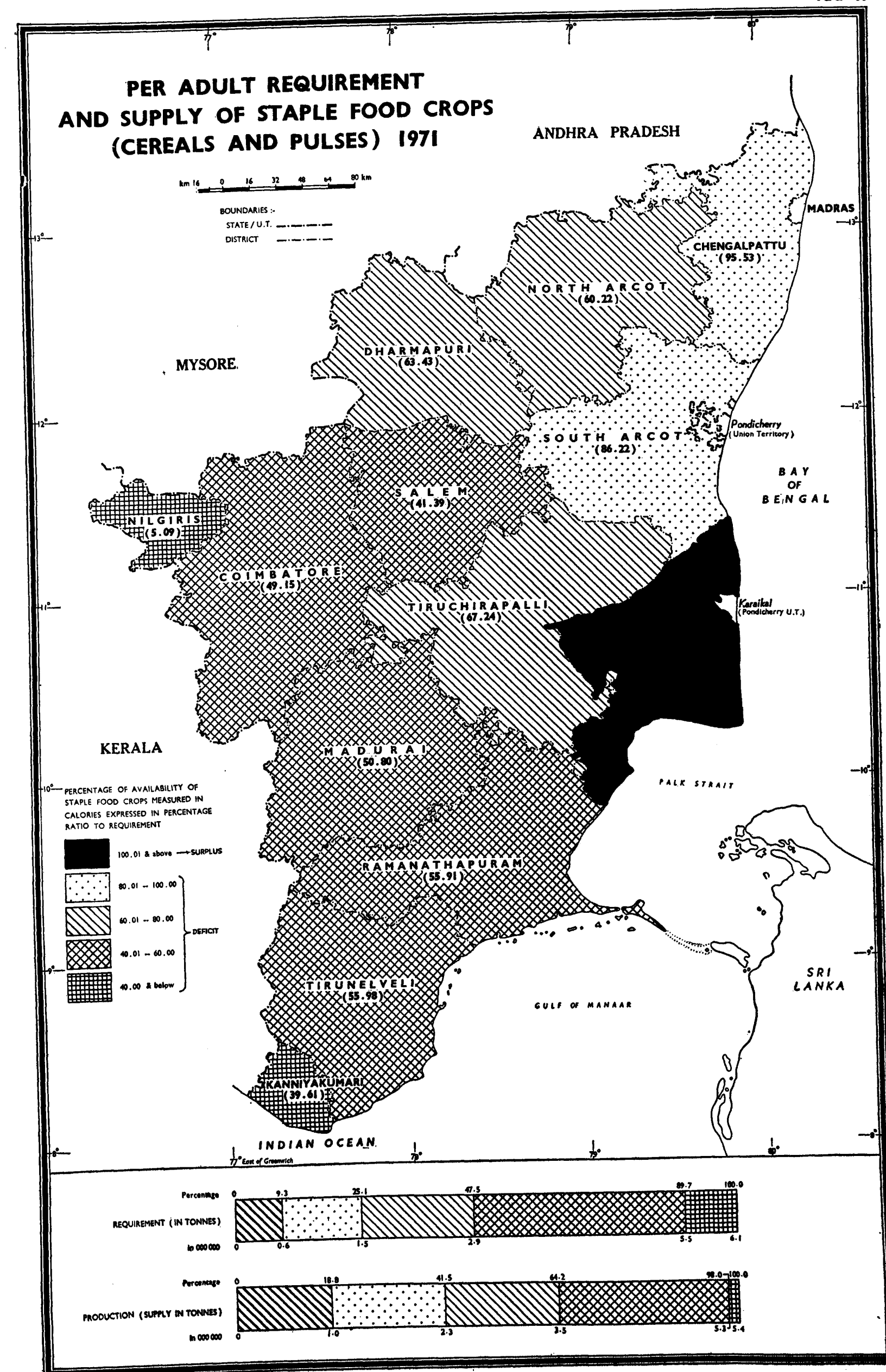
(67.24), Dharmapuri (63.43) and North Arcot (60.22). The districts of Madurai, Tirunelveli and Ramanathapuram have between 50 and 60 per cent of supply against the requirement of 100 per cent; the districts of Salem and Coimbatore reveal 40-50 per cent. The lowest ratio is in Nilgiris (5.09 per cent) and this is understandable as the district abounds in hilly tracts and forest regions with little area left for cultivation. Kanniyakumari district at the southern end shows the next lowest percentage of 39.61.

The yearly supply of cereals and pulses in calories per adult unit and its percentage to the calory requirement are given below for state and districts:—

Unit	Availability of cereals and pulses (in calories) per adult per year	Percentage of calories available to calories required per adult per year (876,000)
1	2	3
TAMIL NADU	550,887	62.89
Madras	Entirely Urban	
Chengalpattu	836,883	95.53
North Arcot	527,548	60.22
South Arcot	755,248	86.22
Dharmapuri	555,676	63.43
Salem	362,617	41.39
Coimbatore	430,518	49.15
Nilgiris	44,590	5.09
Madurai	444,982	50.80
Tiruchirapalli	589,057	67.24
Thanjavur	1,104,897	126.13
Ramanathapuram	489,807	55.91
Tirunelveli	490,421	55.98
Kanniyakumari	347,000	39.61

The two horizontal bar diagrams below the main map depict (i) the total requirement, in tonnes of cereals and pulses and (ii) the average annual production, in tonnes of cereals and pulses in the districts falling in the five ranges as shown in the main map.

The requirement and supply are indicated in these bar diagrams in actual tonnes and percentages in a cumulative manner from high to low ranges (of surplus and deficit), as shown in the map legend.



8. INDUSTRIAL CATEGORIES

WORKERS AND NON-WORKERS 1971

This map shows the workers and non-workers for state and districts, as at the 1971 Census. Pie diagrams have been drawn for each district in proportion to the total population with district sectors for workers and non-workers by sex. All the districts have been brought under six ranges based on the percentage of workers to total population and have been shaded accordingly in the background as shown in the legend of the map.

A 'worker' in 1971 Census was defined as one whose main activity was participation in any economically productive work by his physical or mental activity. Work involved not only actual work but also effective supervision and direction of work. The reference period was one week prior to the date of enumeration in the case of regular work in trade, profession, service or business. In the case of seasonal work, a person's main activity was ascertained with reference to such work in the last one year.

At the state level, there were 14.74 million workers in 1971, forming 35.78 per cent of the total population. Seven out of the fourteen districts of the state have registered a higher percentage of workers than the state average. The highest percentage of workers (40.85) is in Coimbatore district. The second and third higher percentages are in the districts of Salem (39.51) and Nilgiris (38.83). There are four districts with a workers' percentage of 36.01 to 38.00 and three districts with percentages between 34.01 and 36.00. The capital city of Madras which is coterminous with Madras district has the lowest workers' proportion of 28.20 per cent, in spite of its being the premier industrial/commercial nerve centre of the state. Kanniyakumari district has also a low percentage of 28.67, the second lowest in the state.

Unit	Total Population 1971	Percentage of			
		Workers		Non-Workers	
		Males	Females	Males	Females
1	2	3	4	5	6
TAMIL NADU	41,199,168	28.32	7.46	22.24	41.98
Madras	2,469,449	25.79	2.41	26.74	45.06
Chengalpattu	2,907,599	28.00	5.73	23.35	42.92
North Arcot	3,755,797	28.29	7.21	22.44	42.06
South Arcot	3,617,723	28.95	5.75	21.83	43.47
Dharmapuri	1,677,775	29.51	6.90	21.29	42.30
Salem	2,992,616	30.40	9.11	20.54	39.95
Coimbatore	4,373,178	30.84	10.01	20.26	38.89
Nilgiris	494,015	26.16	12.67	25.28	35.89
Madurai	3,938,197	28.11	8.81	22.24	40.84
Tiruchirappalli	3,848,816	29.13	7.92	21.08	41.87
Thanjavur	3,840,732	27.82	5.58	22.33	44.27
Ramanathapuram	2,860,207	26.64	9.03	22.34	41.99
Tirunelveli	3,200,515	26.59	10.01	22.39	41.01
Kanniyakumari	1,222,549	25.66	3.01	25.05	46.28

The two horizontal bar diagrams below the main map show the area in km² and the workers of the districts of the six ranges shown in the legend of the map.

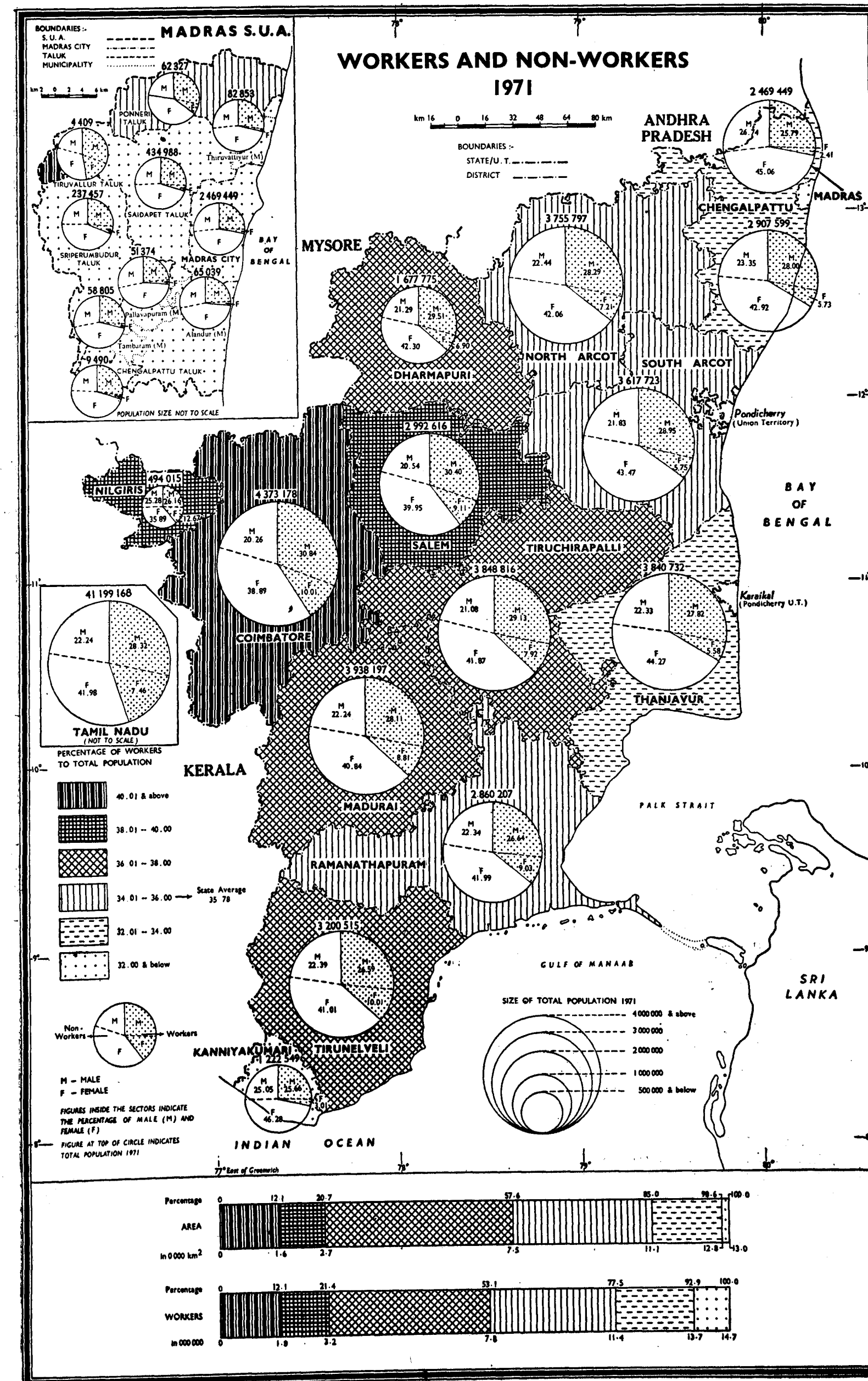
Male workers alone form 28.32 per cent of total population of the state. Male workers form the highest percentage to total population in Coimbatore district (30.84 per cent). Salem district too shows a high percentage of 30.40 in this regard. All the other districts have percentages varying between 25.00 and 30.00 except Madras (25.79) and Kanniyakumari (25.66) which show low percentages. Female workers form the highest percentage to total population in Nilgiris (12.67). In this district women workers in plantations and vegetable/fruit growing are legion. The other districts where female workers form over 10 per cent of their population are Coimbatore (10.01) and Tirunelveli (10.01). Madras city with 2.41 per cent and Kanniyakumari district with 3.01 per cent have very low percentage of female workers to total population.

Non-workers form over 70 per cent of the total population in Madras and Kanniyakumari. In most of the other districts, the percentage of non-workers falls in the range of 60-65 per cent. Among the non-workers, females are preponderant. Nine of the fourteen districts indicate 40 to 45 per cent of female non-workers among the population. While Kanniyakumari (46.28 per cent) and Madras (45.06 per cent) district show a still higher ratio, three districts have 35-40 per cent. Comparatively higher percentages of male non-workers are noticed in Madras (26.74), Nilgiris (25.28) and Kanniyakumari (25.05) than in the other districts.

An inset map shows the population of workers and non-workers by males and females in Madras city, and four other municipalities and areas of five taluks of Chengalpattu district, all of which form part of Madras standard urban area.

Data on population and percentage of male/female workers and non-workers are given below for state and districts.

The actual area and the number of workers as well as their percentages for the ranges (from high to low) are indicated in a cumulative manner.



RURAL WORKERS AND NON-WORKERS 1971

This map depicts workers and non-workers with male and female divisions among the total rural population at district level as in 1971 Census. The cartographic technique is the same as in the previous map.

The percentage of rural workers in the total rural population of the state is 38.19. Barring Madras which is entirely urban, rural workers range from a high percentage of 44.36 in Coimbatore district to a low 28.99 per cent in Kanniyakumari district. The four contiguous western districts of Salem, Coimbatore, Nilgiris and Madurai have a high percentage of workers among rural population in the state. Excepting the four western districts mentioned earlier, the rest of the districts have recorded a high proportion of non-workers (over 60 per cent).

Male workers form comparatively high proportions in Coimbatore (32.39 per cent), Salem (31.29 per cent) and Tiruchirapalli (30.20 per cent) districts. In all the other ten districts, percentages of male workers vary between 26 and 30. Nilgiris (26.01 per cent) and Kanniyakumari (26.09) occupy the lower ranks, in this regard.

That female employment in rural areas of Nilgiris district is more widespread and common than in other districts, is revealed by the highest proportion of 14.96 per cent of female workers among the district's rural inhabitants. Four other districts, viz., Salem, Coimbatore, Madurai and Tirunelveli have recorded a per-

centage from 10 to 12. Female workers among the rural population is very low only in Kanniyakumari district (2.90 per cent) and no other district of the state has less than six per cent of female workers among the districts total rural population.

Among the non-working population, females form a substantial ratio in all the districts. Of the 61.81 per cent of non-workers at the state level, 40.98 per cent represents females and only 20.83 per cent males. The highest percentage of male non-workers (24.99) is recorded in Nilgiris district followed by Kanniyakumari district (24.70). While eight districts have a male non-workers ratio of 20 to 22 per cent, there are three districts (Tiruchirapalli, Salem and Coimbatore) which have less than 20 per cent of male non-workers.

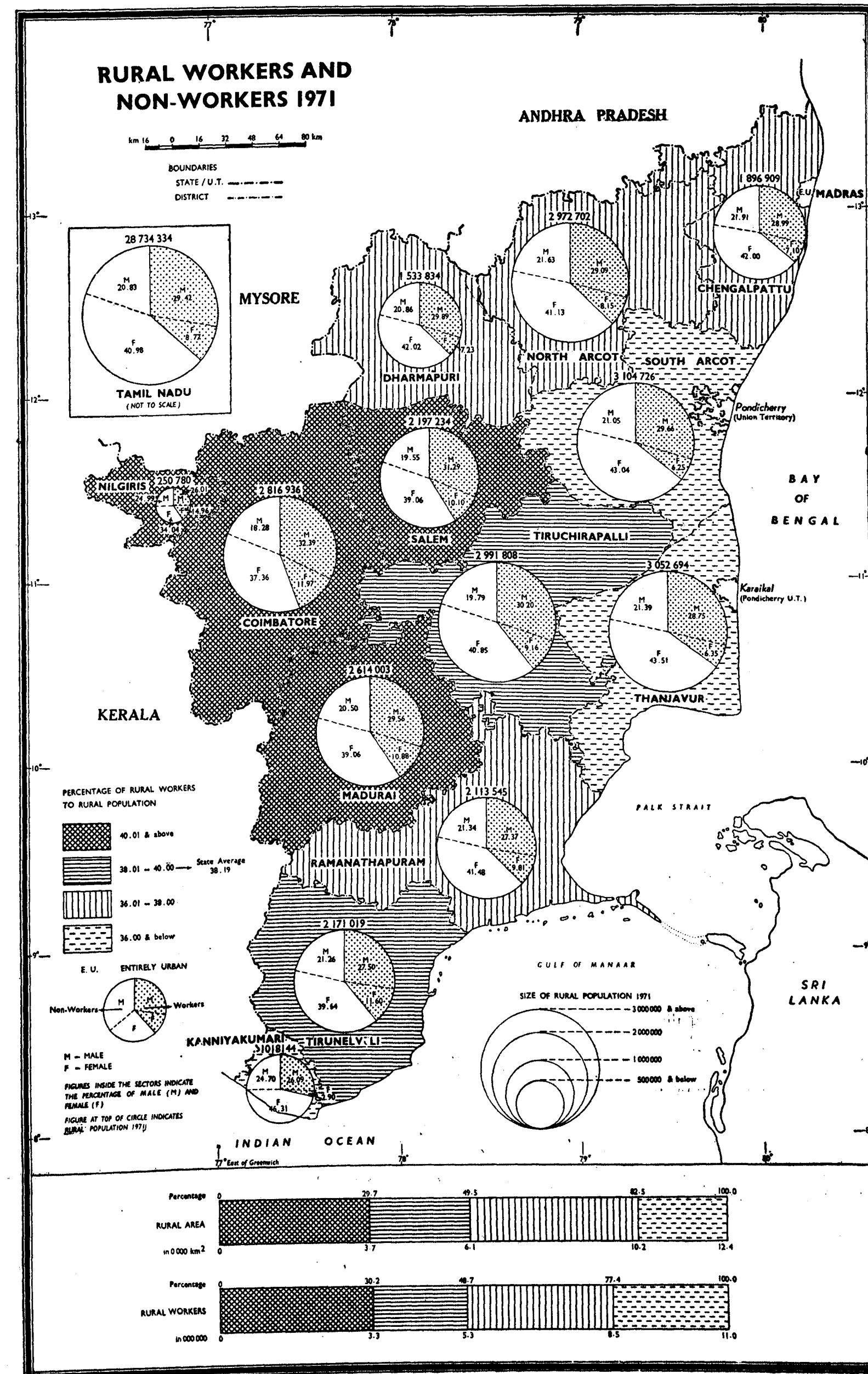
Female non-workers form a very high percentage of rural population in Kanniyakumari district (46.31). It is significant to note that the two other districts which have a substantial ratio of female non-workers among their respective population are Thanjavur (43.51 per cent) and South Arcot (43.04 per cent), the predominantly agriculture-oriented and contiguous districts on the east coast. The lowest extent of female non-workers is recorded in Nilgiris district (34.04 per cent).

The total rural population and percentage distribution of male/female workers and non-workers among them in the state and districts are presented below:

Unit	Rural Population 1971	Percentage distribution of rural population among			
		Workers		Non-Workers	
		Males	Females	Males	Females
1	2	3	4	5	6
TAMIL NADU	28,734,334	29.42	8.77	20.83	40.98
Madras	..	- Entirely urban -			
Chengalpattu	1,896,909	28.99	7.10	21.91	42.00
North Arcot	2,972,702	29.09	8.15	21.63	41.13
South Arcot	3,104,726	29.66	6.25	21.05	43.04
Dharmapuri	1,533,834	29.89	7.23	20.86	42.02
Salem	2,197,234	31.29	10.10	19.55	39.06
Coimbatore	2,816,936	32.39	11.97	18.28	37.36
Nilgiris	250,780	26.01	14.96	24.99	34.04
Madurai	2,614,003	29.56	10.88	20.50	39.06
Tiruchirapalli	2,991,808	30.20	9.16	19.79	40.85
Thanjavur	3,052,694	28.75	6.35	21.39	43.51
Ramanathapuram	2,113,545	27.37	9.81	21.34	41.48
Tirunelveli	2,171,019	27.50	11.60	21.26	39.64
Kanniyakumari	1,018,144	26.09	2.90	24.70	46.31

The two horizontal bar diagrams below the main map show (i) the area in km² and (ii) the number of rural workers of the districts falling in the four ranges,

from high to low. The actual area as well as rural workers for the four ranges are indicated in a cumulative manner.



MAP 64

URBAN WORKERS AND NON-WORKERS 1971

This map is similar to the previous two maps and shows the urban workers and non-workers among urban population by sex at district level as in 1971. The cartographic technique is the same as in the previous two maps.

There are 12.46 million urban inhabitants in the state and 3.77 million among them (forming 30.23 per cent) are workers. Of these 30.23 per cent, 25.78 represent male workers and the rest female workers. The extent of female participation in work in the urban areas is very small. There are three districts where workers among the urban population form high proportions. These are the three contiguous districts of Nilgiris (36.62 per cent), Coimbatore (34.49 per cent) and Salem (34.32 per cent). Besides the above three, the southern districts of Ramanathapuram and Tirunelveli (with about 32 per cent each) show a higher percentage than the state average. Thanjavur (26.84 per cent) and South Arcot (27.34 per cent) districts have registered lower ratios of workers among the districts.

Nine out of fourteen districts have recorded 70-75 per cent of non-workers among their urban population, female non-workers constituting a higher proportion.

Male workers among urban dwellers of the districts range from 23.46 per cent in Kanniyakumari district to 28.05 per cent in Coimbatore district. Four districts fall in the range of 24-25 per cent of male workers while another five districts in the percentage range of 25-26. Female workers form the highest percentage in urban

areas of Nilgiris (10.31). Female labourers engaged in tea/coffee plantations and vegetable/fruit cultivation are found in good numbers even in urban areas of this hilly district. Female workers among urban inhabitants show comparatively higher proportions in the two southern districts of Ramanathapuram and Tirunelveli as also in the western districts of Salem and Coimbatore, where they are in the range of 6-7 per cent. Very low proportions of less than three per cent of female workers are noticed in Madras, South Arcot and Thanjavur districts.

Male non-workers form 25 to 27 per cent of urban dwellers in 11 out of the 14 districts. Slightly lower proportions (between 23-25 per cent) are recorded by the remaining three districts, which are Tirunelveli (24.77) Coimbatore (23.86) and Salem (23.25). The state average for urban male non-workers is 25.48 per cent.

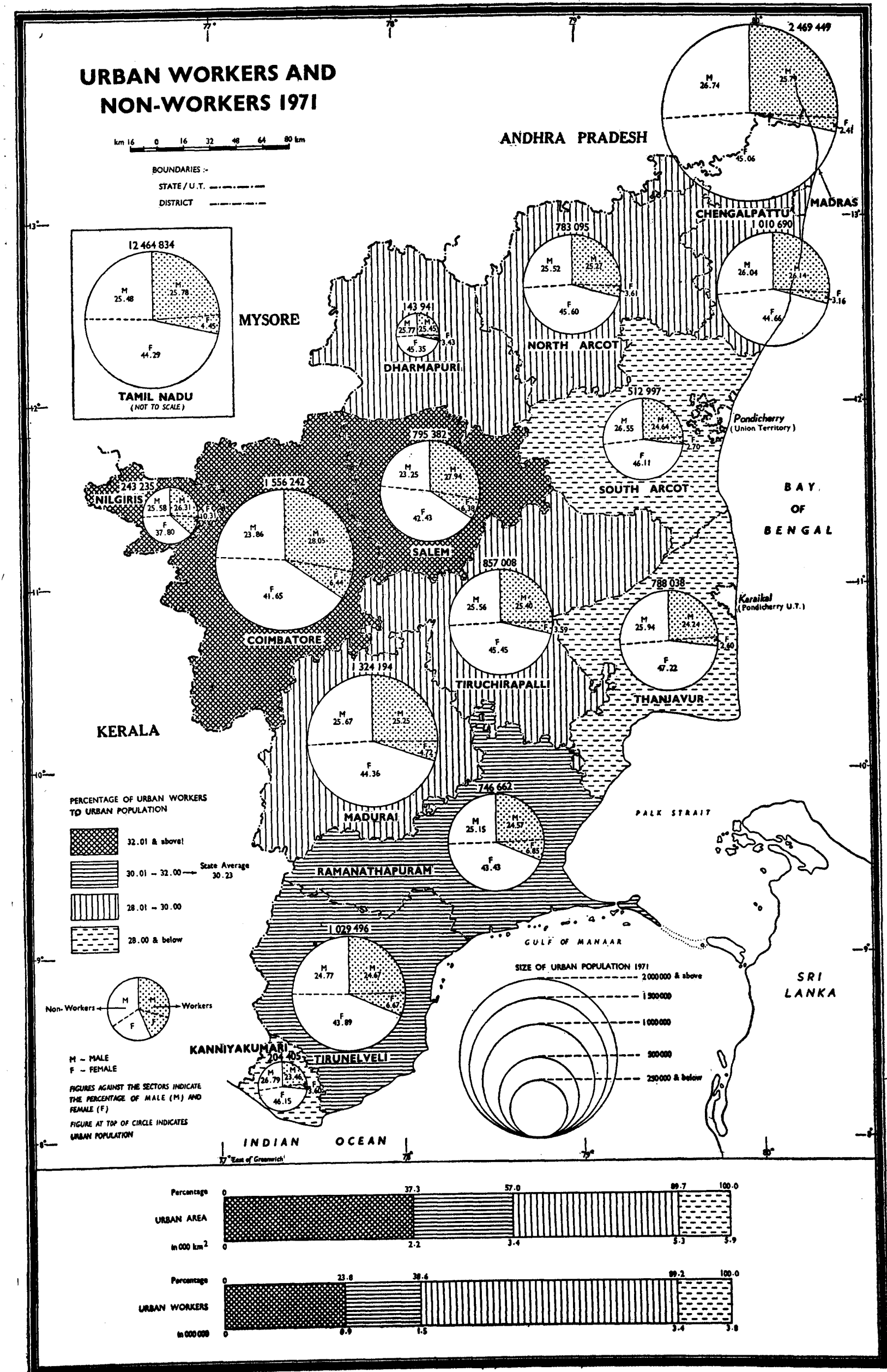
A large majority of the urban non-workers are females (44.29 per cent). They form the highest proportion (47.22) in the towns of Thanjavur district as against the lowest (37.80) among such population in Nilgiris. In the urban areas of six districts, female non-workers form 44 to 46 per cent of their respective urban dwellers.

Data on urban population and their percentage distribution among male and female workers as well as non-workers for the state and districts are presented below:

Unit	Urban Population 1971	Percentage of urban population			
		Workers		Non-Workers	
		Males	Females	Males	Females
1	2	3	4	5	6
TAMIL NADU	12,464,834	25.78	4.45	25.48	44.29
Madras	2,469,449	25.79	2.41	26.74	45.06
Chengalpattu	1,010,690	26.14	3.16	26.04	44.66
North Arcot	783,095	25.27	3.61	25.52	45.60
South Arcot	512,997	24.64	2.70	26.55	46.11
Dharmapuri	143,941	25.45	3.43	25.77	45.35
Salem	795,382	27.94	6.38	23.25	42.43
Coimbatore	1,556,242	28.05	6.44	23.86	41.65
Nilgiris	243,235	26.31	10.31	25.58	37.80
Madurai	1,324,194	25.25	4.72	25.67	44.36
Tiruchirapalli	857,008	25.40	3.59	25.56	45.45
Thanjavur	788,038	24.24	2.60	25.94	47.22
Ramanathapuram	746,662	24.57	6.85	25.15	43.43
Tirunelveli	1,029,496	24.67	6.67	24.77	43.89
Kanniyakumari	204,405	23.46	3.60	26.79	46.15

The area in km² and urban workers of the districts in the four ranges from high to low are presented in the two horizontal bar diagrams below the main map. The

actual figures and percentages are indicated cumulatively in these diagrams.



MAP 65

RURAL MALE WORKERS IN AGE 15-59, 1971

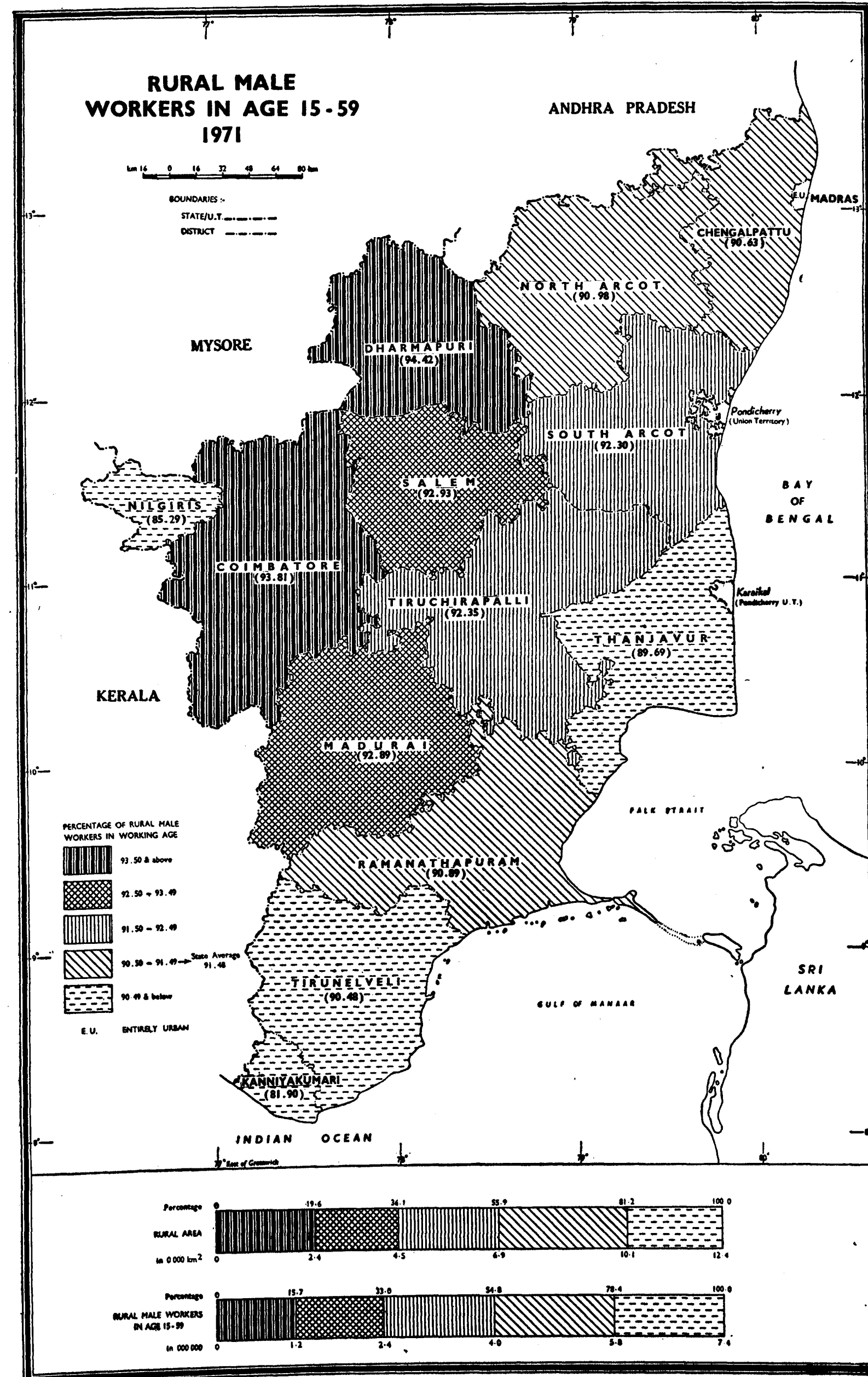
This map shows variations in the proportion of workers to population in age-group 15-59 for males in rural areas at district level. The ratio of workers to population has been calculated by using the 1971 Census economic data and based on this ratio, the 13 districts of the state (excluding Madras which is urban) have been brought under five broad ranges as per the legend of the map.

The state average ratio of 91.48 per cent signifies a high participation of rural males of working age-group in economically productive work. A very high proportion of 94.42 per cent is noticed in Dharmapuri district where agriculture is the mainstay of the large majority of rural inhabitants. This district is considered as economically poor. Coimbatore district also has a high worker ratio of 93.81 per cent among rural working age males. Apart from these two districts, the adjoining districts of Salem (92.93 per cent) and Madurai (92.89 per cent) and also Tiruchirapalli and South Arcot districts with about 92.35 per cent and 92.30 per cent respectively have higher ratio of workers than for state as a whole. These districts are all contiguous and lie in the central part of the state. The remaining seven districts have lower ratios than the state average. Kanniyakumari district at the southern end has the lowest percentage of 81.90 rural working males while the hilly Nilgiris in the west has recorded 85.29 per cent. These two and the agriculture oriented Thanjavur district with only 89.69 per cent, fall under the lowest range with less than 90 per cent. There are 8.04 million males aged 15-59 in the rural areas of the state and 7.35 million of them have been returned as 'workers' in 1971 Census. The male population of age-group 15-59 in rural areas,

workers and their ratio are given below for state and districts.

Unit	Rural males of 15-59 age-group		Percentage of workers
	Population	Workers	
1	2	3	4
TAMIL NADU	8,038,615	7,353,884	91.48
Madras	Entirely Urban		
Chengalpattu	533,260	483,285	90.63
North Arcot	823,631	749,326	90.98
South Arcot	878,386	810,711	92.30
Dharmapuri	401,604	379,213	94.42
Salem	638,822	593,653	92.93
Coimbatore	830,185	778,834	93.81
Nilgiris	70,397	60,044	85.29
Madurai	728,304	676,539	92.89
Tiruchirapalli	854,533	789,178	92.35
Thanjavur	865,428	776,169	89.69
Ramanathapuram	556,044	505,361	90.89
Tirunelveli	569,359	515,151	90.48
Kanniyakumari	288,662	236,420	81.90

Two bar diagrams at the bottom of the map show respectively the area in km² and the rural male workers of 15-59 age-group of the districts falling in the five ranges, (depicted in the main map), from high to low ratios.



MAP 66

URBAN MALE WORKERS IN AGE 15-59, 1971

This map depicts the ratio of workers among males of 15-59 age-group in the urban areas of districts. Males of this working age-group are generally employed and the exceptions are either 'students' pursuing higher education or persons who are physically incapacitated and dependents or beggars or inmate of penal, mental and charitable institutions etc.

The fourteen districts have been classified under four broad ranges, based on the ratio of male workers to the total males of this age-group. The state as a whole, shows a high ratio of 80.01 per cent of males of 15-59 age-group as 'working' as per the 1971 Census definition. The percentage of workers ranges from 76.08 in Kanniyakumari district to 85.95 in Salem district. Only five of the fourteen districts of the state have lower percentages than the state average and these are Kanniyakumari, Madras, Thanjavur, Tiruchirapalli and South Arcot. In these districts the proportions of urban males in the working age 15-59 is variant due to differential urban economic growth. The districts with high percentages of workers in urban areas form a zone and lie together in the west and north-western region of the state. In the urban areas of Salem, nearly 86 per cent of the male working age-group population have been categorised as workers in census and this represents the highest figure, followed by Coimbatore with 83.46 per cent of workers.

Of the 3.72 million males of 15-59 age-group spread over the 439 urban units of Tamil Nadu, nearly 2.98 million are engaged in one or other economically productive items of labour. A large part of this male labour force is in the districts of Madras and Coimbatore which combinedly account for one million. The other districts which have a large number of such male urban workers are, in the order of strength, Madurai, Chengalpattu, Tirunelveli, Tiruchirapalli and Salem.

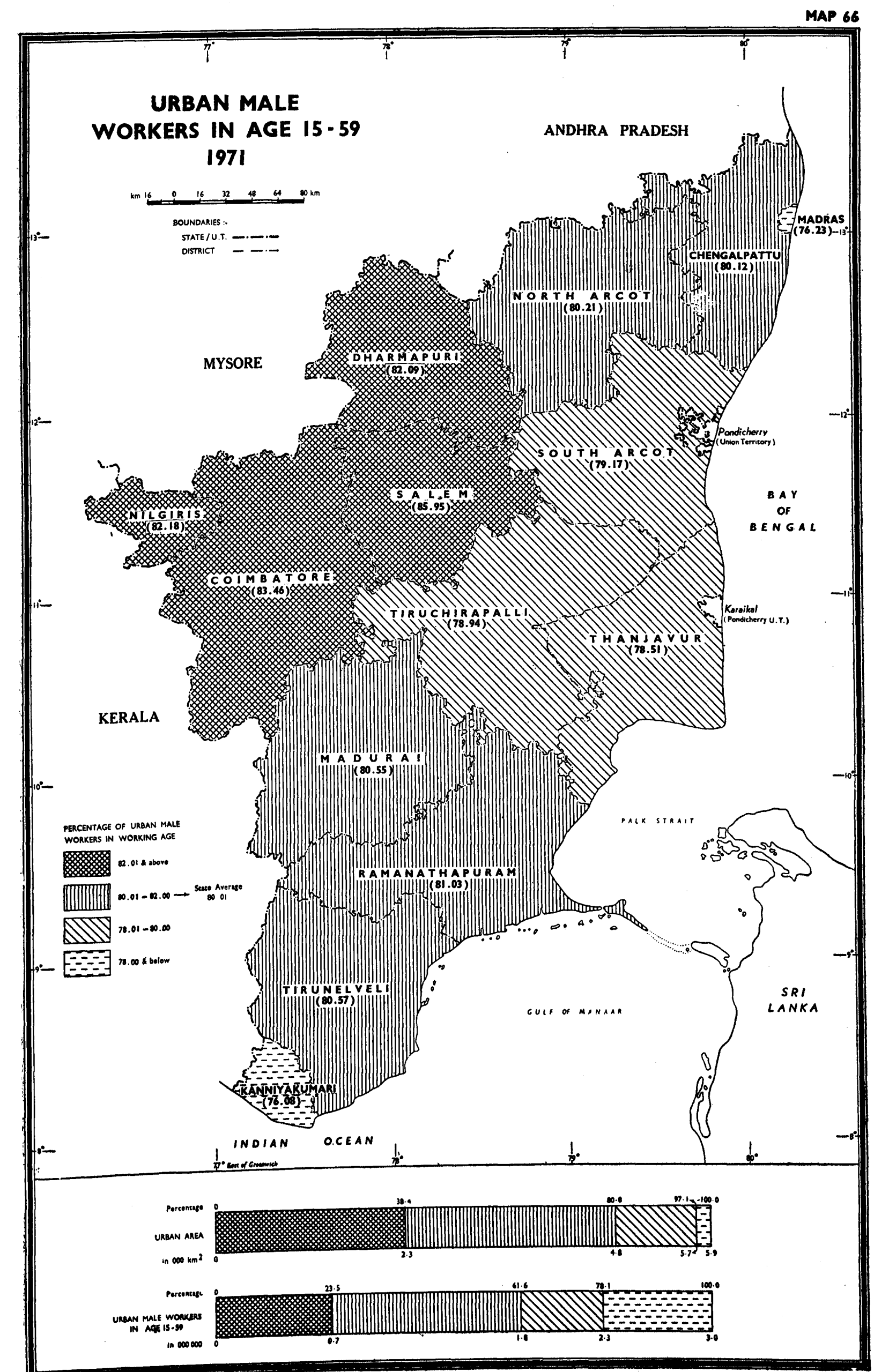
The low ratio in Madras and Kanniyakumari is attributable to the availability of higher educational facilities and the generally higher extent of students

pursuing collegiate education in ages above 15 years, on completion of secondary school education. Districts with low number of male workers in the working age-groups are Kanniyakumari, Nilgiris and Dharmapuri which are small districts with a limited number of urban areas in them.

Data on the urban male population of working age-group (15-59), workers among them and their percentages are given below for the state and districts.

Unit	Males of 15-59 age-group in urban areas	Working males out of those in Col. 2	Per cent
1	2	3	4
TAMIL NADU	3,722,059	2,977,908	80.01
Madras	796,892	607,456	76.23
Chengalpattu	310,054	248,422	80.12
North Arcot	225,702	181,042	80.21
South Arcot	147,592	116,854	79.17
Dharmapuri	40,180	32,984	82.09
Salem	232,716	200,024	85.95
Coimbatore	485,606	405,282	83.46
Nilgiris	73,275	60,218	82.18
Madurai	384,132	309,433	80.55
Tiruchirapalli	255,386	201,595	78.94
Thanjavur	221,186	173,659	78.51
Ramanathapuram	205,408	166,441	81.03
Tirunelveli	286,237	230,608	80.57
Kanniyakumari	57,693	43,890	76.08

The urban area of the districts and the male workers of 15-59 age-group living in them and falling in the four ranges depicted in the main map are presented in actuals and percentages in a cumulative way in the two horizontal bars at the bottom.



RURAL FEMALE WORKERS IN AGE 15-59, 1971

This map shows the percentage of workers among females of 15-59 age-group in the rural areas at the district level. Data for this map have been taken from the 1971 census economic Table B-I Part A. Based on the percentages, all the districts, except Madras which is entirely urban, have been grouped into five broad ranges.

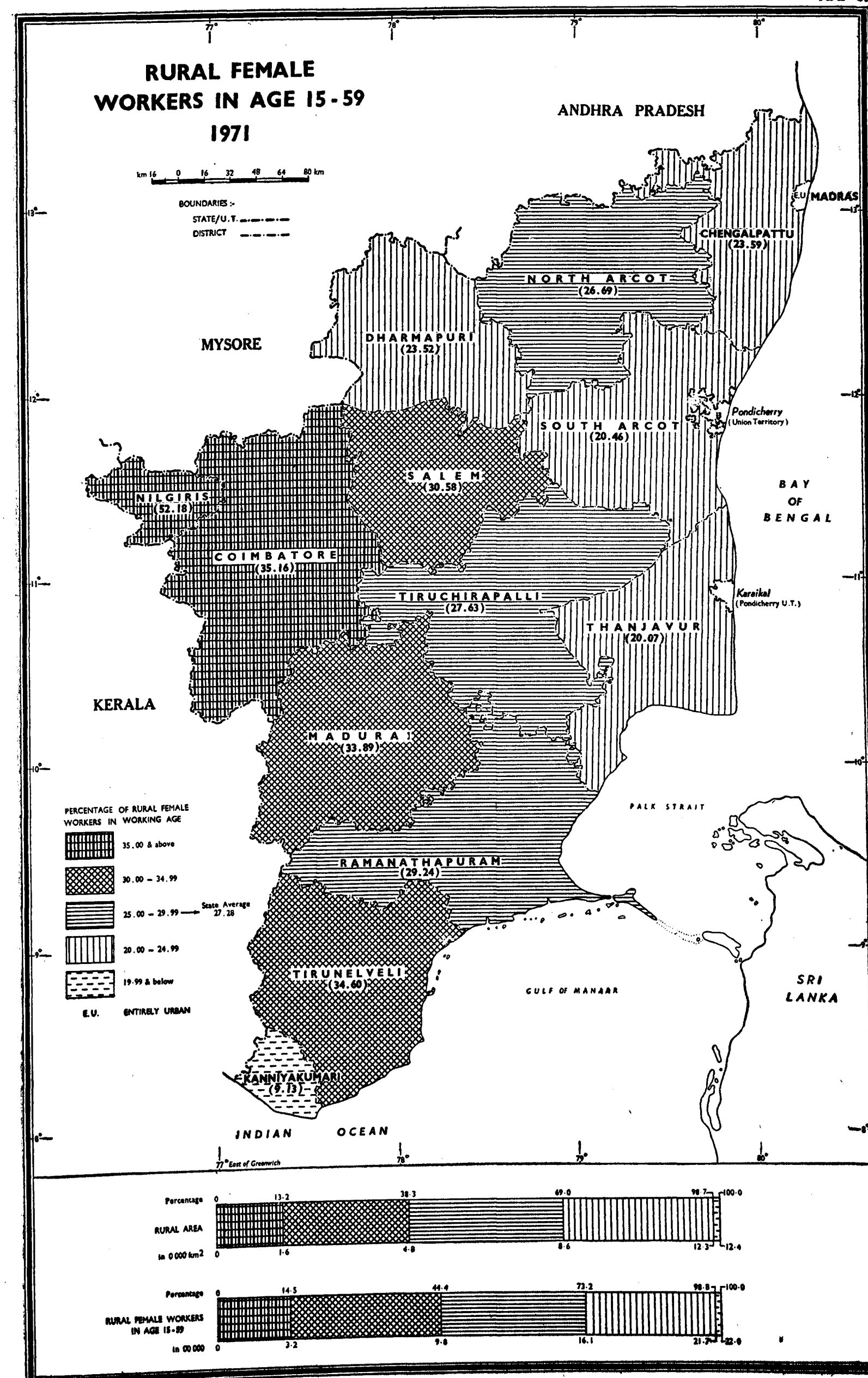
The highest ratio of female workers of rural areas is in the Nilgiris district (52.18 per cent) as against the state average of 27.28 per cent. This is the only district which has recorded over half of its rural females of 15-59 age-group as 'workers'. Tea/Coffee, plantations and orchards are well spread out in the rural areas of this hilly western district and a large number of female labourers are engaged in such activities. The next prominent district with a high percentage of workers is Coimbatore (35.16 per cent). Besides agricultural activities handloom and textile industries enable women participation in the work force to a higher ratio. Even between these two districts with high percentages, a wide difference in ratio is noticed. These two districts lie contiguously in the western terrain. The adjoining districts of Salem and Madurai as also Tirunelveli in the south fall in the percentage range of 30 to 35. Besides agriculture, handloom and textile industry are prominent in these areas also. The engagement of females in economic activities is strikingly low in Kanniyakumari district (9.13 per cent) where agricultural activities as well as household industries are of a low order. No other district of Tamil Nadu has revealed such a low ratio of less than ten per cent of workers among rural females of 15-59 age-group. The three coastal districts of Chengalpattu, South Arcot and Thanjavur as also the backward Dharmapuri district on the north west fall in the percentage range of 20-25.

Of the 8.05 million rural females in the age-group 15-59 in the state only 2.20 million are workers. Over 50 per cent of the state's female workers of this age-group are spread out in the rural areas of the five big districts of the North Arcot, Coimbatore, Madurai, Tiruchirapalli and Tirunelveli in each of which there are over 200,000 female workers. Smaller districts (Nilgiris, Kanniyakumari & Dharmapuri) have lesser number of female workers.

Data on the rural females of 15-59 age-group in state and districts, workers among them and their percentages are presented below.

Unit	Rural female population 15-59	Rural female workers 15-59	Percentage of workers to population among rural female 15-59
1	2	3	4
TAMIL NADU	8,052,994	2,196,521	27.28
Madras	Entirely urban.		
Chengalpattu	512,253	120,847	23.59
North Arcot	803,205	214,400	26.69
South Arcot	861,784	176,309	20.46
Dharmapuri	387,019	91,012	23.52
Salem	619,237	189,346	30.58
Coimbatore	808,291	284,200	35.16
Nilgiris	67,171	35,053	52.18
Madurai	737,097	249,789	33.89
Tiruchirapalli	864,923	238,950	27.63
Thanjavur	873,535	175,279	20.07
Ramanathapuram	609,464	178,205	29.24
Tirunelveli	628,884	217,565	34.60
Kanniyakumari	280,131	25,566	9.13

Two horizontal bar diagrams to show (i) the rural area in km² and (ii) the rural female workers of 15-59 age-group of the districts falling in the five ranges (from high to low) as in the map legend are given below the main map. The actual figures and percentages for these ranges are indicated in a cumulative manner.



MAP 68

URBAN FEMALE WORKERS IN AGE 15-59, 1971

This map shows the proportion of workers among females of age-group 15-59 living in urban areas, as recognised in 1971 census. The map is presented at district level and data for the map have been taken from the 1971 census economic Table B-1 Part A. Based on the percentages, all the 14 districts of the state have been brought under five broad ranges as depicted in the map legend.

Workers among females is generally very low in urban areas. Females in greater proportion are engaged in agriculture and allied activities in rural areas; employment of females in urban areas is low and it is restricted to white collar jobs like services as also trade and commerce and to a smaller extent on household and non-household manufacturing industry, construction and personal and domestic services. Of the 3.45 million females in the working age-group of 15-59 in the urban areas of the state, only about half-a-million women forming a bare 14.46 per cent are 'workers'. Eight districts have recorded lower percentages than the state average, the six others show high ratios. The highest percentage is (as in the case of rural areas), in Nilgiris district, viz. 36.36. This of course is far lower than the proportion in the rural areas of the same district where similar ratio is over 50 per cent. However, the percentage of 36.36 is very high compared to the urban areas of the other districts. In the case of Nilgiris, the urban population is sizable and there are a large number of female workers even in urban areas who are engaged in plantation as also in vegetable and fruit production. Coimbatore is the second important district where 21.20 per cent among urban females of the working age-group are workers. This district has a number of textile, hosiery and ginning mills besides large number of handlooms providing sizable employment for women. The two other districts which stand prominent in urban female employment are Ramanathapuram (20.79 per cent) and Tirunelveli (20.02 per cent). In these cottage and household industrial establishments like match working beedi manufacture besides handloom industry give adequate employment for women. The most urbanised region of the state and the state's capital of Madras has the lowest recorded figure of 8.19 per cent among districts. Considering the high educational level among females living in Madras and the opportunities for education and higher education available to them here, this is indeed an unsatisfactory proportion. Urban female employment is however open more to educated females as opportunities for unskilled female labour are very limited in such areas. The proportion is low in the urban areas of the Thanjavur district (8.32 per cent).

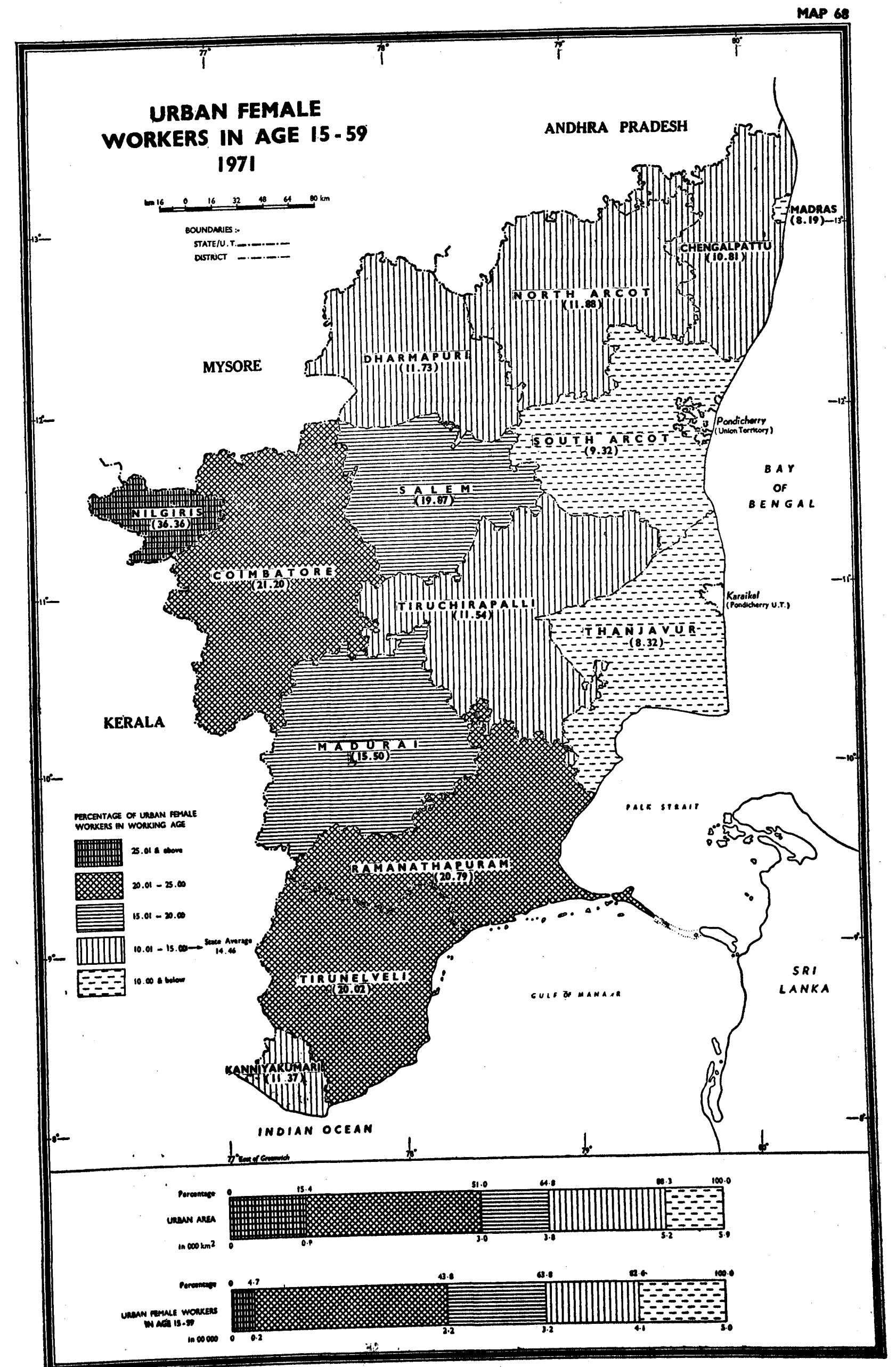
The district of South Arcot which has a low proportion of urban dwellers has also recorded a low percentage (9.32) of workers among urban females of 15-59 age-group. Five of the 14 districts have recorded percentages in the range of 10 to 12.

The largest number of working females in urban areas in 15-59 age-group is in Coimbatore district (91,493). Such working females number 50,000-60,000 in Madras, Madurai and Tirunelveli districts.

Data on urban female population in 15-59 age-group in state and districts, the number of workers among them and their percentage are given below :

Unit	Female Urban population 15-59	Female Workers in urban areas 15-59	Percentage of workers among urban females 15-59
1	2	3	4
TAMIL NADU	3,454,666	499,586	14.46
Madras	681,918	55,871	8.19
Chengalpattu	272,805	29,483	10.81
North Arcot	215,385	25,577	11.88
South Arcot	137,389	12,802	9.32
Dharmapuri	37,404	4,386	11.73
Salem	218,621	43,430	19.87
Coimbatore	431,664	91,493	21.20
Nilgiris	64,447	23,433	36.36
Madurai	365,736	56,704	15.50
Tiruchirapalli	242,517	27,988	11.54
Thanjavur	220,109	18,315	8.32
Ramanathapuram	211,002	43,868	20.79
Tirunelveli	298,309	59,715	20.02
Kanniyakumari	57,360	6,521	11.37

The urban area in km² and the urban female workers in the age-group 15-59 of the districts in the five ranges from high to low are shown in two horizontal bar diagrams at the bottom of the map. The figures and percentages are shown here for the five ranges in a cumulative manner.



WORKERS AND NON-WORKERS IN EMPLOYABLE POPULATION IN AGE 15-59, 1971

This map shows the proportion of male/female workers and non-workers among the employable persons in the working age-group of 15-59. The employable population of each district belonging to 15-59 years is depicted by proportionate circles with divisions for male/female workers and non-workers. The non-workers of 15-59 ages are also portrayed by a proportionate square shown by the side of the circle. The hatched smaller inset squares represent female non-workers. Data for this map have been taken from the 1971 Census Tables B-I Part A and B-VIII. All those persons who have returned themselves as workers in the age-group of 15-59, and all non-workers of the same age-group excluding those coming under (1) household duties, (2) students, (3) retired persons or rentiers, (4) dependents, (5) beggars etc. and (6) inmates of institutions like jails, etc. are represented in this map.

There are 13.38 million employable persons in 15-59 ages in Tamil Nadu, and 97.34 per cent of them are workers. A little over three-fourths of such population are male workers. Female workers constitute 20.15 per cent. There are 356,473 non-workers in 15-59 ages and 82.38 per cent of them are males.

Male workers among employable persons of 15-59 ages are generally in a large majority in all the districts. Their ratio varies from 65.33 per cent in the Nilgiris district to 84.38 per cent in Kanniyakumari district. In the districts of Madras (83.62 per cent), South Arcot (81.79 per cent), Thanjavur (81.07 per cent) and Dharmapuri (80.47 per cent), they form very high ratios of the employable population. Female workers from between 7.69 per cent in Madras City to 31.77 per cent in Nilgiris district of the respective employable population. The only other district which has over 25 per cent of female workers among employable 15-59 ages is Tirunelveli district (26.33 per cent). Apart from Madras, very low ratio of female workers is observed in Kanniyakumari district too (9.66 per cent).

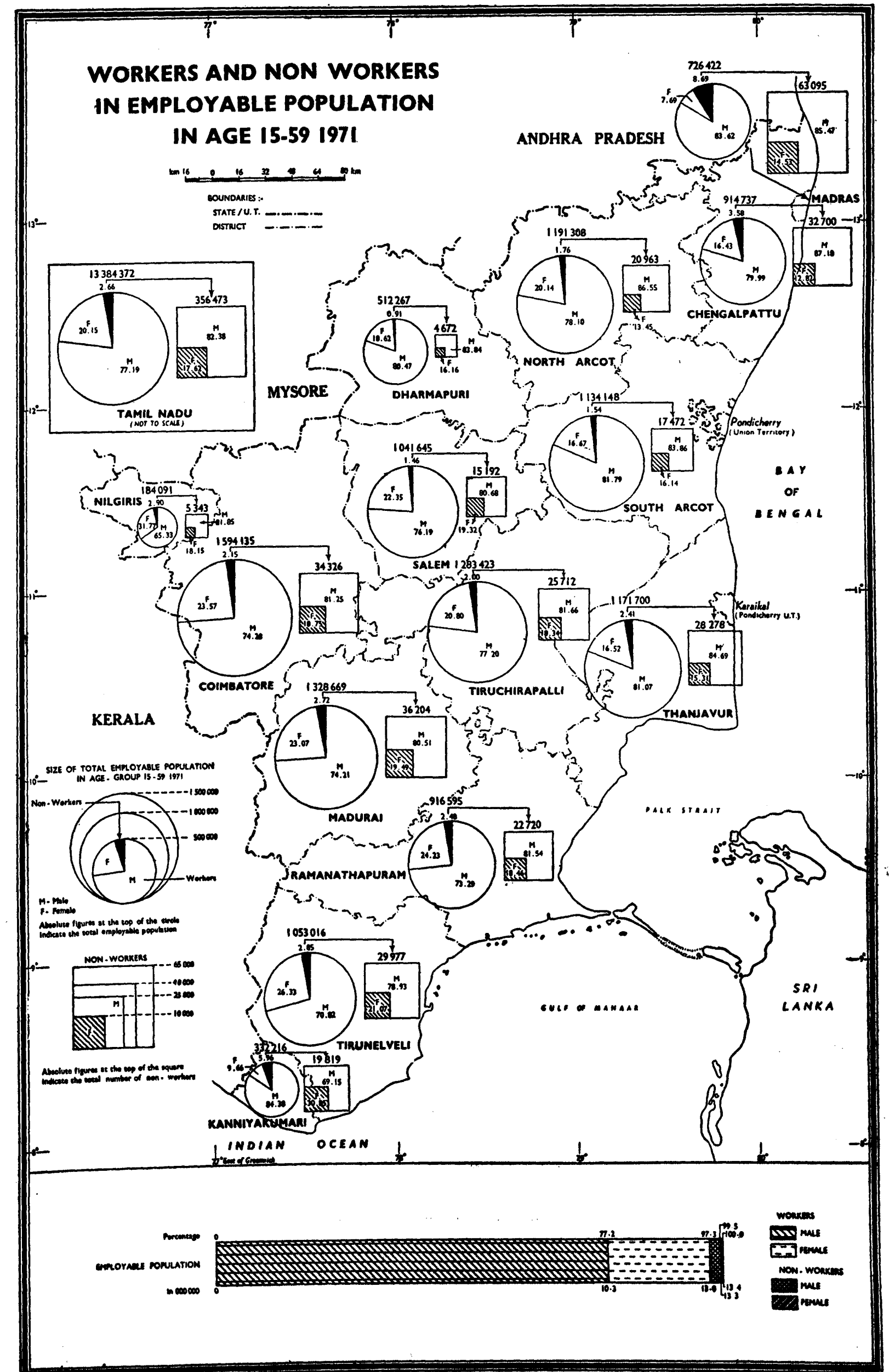
Non-workers form comparatively high percentages in Madras (8.69 per cent) and Kanniyakumari (5.96 per cent) districts. There are 356,473 persons of the above category in the State, of whom 63,095 are in Madras City, 34,326 in Coimbatore district, 36,204 in Madurai district and 32,700 in Chengalpattu district. Lower percentages of less than two per cent of non-workers are observed in the northern districts of Dharmapuri (0.91), Salem (1.46), South Arcot (1.54) and North Arcot (1.76). Most of the employable non-workers may be in search of jobs, as males are preponderant among

such non-workers. Males among non-workers constitute between 69.15 per cent in Kanniyakumari to 87.18 per cent in Chengalpattu district. In all districts except Kanniyakumari and Tirunelveli, among the non-workers in the employable population, males constitute 80 per cent and more. In the contiguous districts of Madras, Chengalpattu and North Arcot over 85 per cent of non-workers are males. Female non-workers form significantly higher ratios only in Kanniyakumari district (30.85 per cent) and Tirunelveli district (21.07 per cent).

Data on male/female workers and non-workers are presented below. The percentages are indicated in the map itself.

Unit	Employable population, 15-59			
	Workers		Non-Workers	
	Males	Females	Males	Females
1	2	3	4	5
TAMIL NADU	10,331,792	2,696,107	293,649	62,824
Madras ..	607,456	55,871	53,925	9,170
Chengalpattu ..	731,707	150,330	28,509	4,191
North Arcot ..	930,368	239,977	18,143	2,820
South Arcot ..	927,565	189,111	14,652	2,820
Dharmapuri ..	412,197	95,398	3,917	755
Salem ..	793,677	232,776	12,257	2,935
Coimbatore ..	1,184,116	375,693	27,891	6,435
Nilgiris ..	120,262	53,486	4,373	970
Madurai ..	985,972	306,493	29,148	7,056
Tiruchirapalli ..	990,773	266,938	20,997	4,715
Thanjavur ..	949,828	193,594	23,948	4,330
Ramanathapuram ..	671,802	222,073	18,525	4,195
Tirunelveli ..	745,759	277,280	23,660	6,317
Kanniyakumari ..	280,310	32,087	13,704	6,115

A horizontal bar diagram showing the state's employable population as in 1971 with divisions for male/female workers followed by male/female non-workers marked by different shades is presented below the main map. The cumulative number of percentage of such persons for the four categories in the above order are also indicated in the bar diagram.



CLASSIFICATION OF MALE AND FEMALE WORKERS 1971

This map shows the district-wise industrial structure of male and female workers as in 1971 Census. Pyramids proportionate to total workers with male and female demarcation on either sides in each industrial category are drawn for each district. The sectors of Primary (Category I to IV), Secondary (Category V & VI) and tertiary (Category VII-IX) activities are further distinguished by three different shades as shown in the legend of the map.

About 65 per cent of workers in the state are engaged in primary activities, female workers constituting 16 per cent thereof. Primary activities include cultivators, agricultural labourers, workers in livestock, forestry, fishing, hunting, plantations, orchards and allied activities and mining and quarrying. Only 21 per cent of the states workers are females and nearly 77 per cent of these are engaged in primary activities. At the state level, 20 per cent of the workers are engaged in tertiary activities and 15 per cent in secondary activities. The secondary sector includes manufacturing and construction workers while the tertiary sector consists of workers engaged in trade, commerce, transport, storage, communications and other services.

In the primary sector, Dharmapuri district has the highest percentage of the workers (84.96) followed by South Arcot district (81.31) Madras City, which is fully urban, has naturally the least ratio of 1.56 per cent of workers in this sector; most of whom are engaged in fishing. Percentage of cultivators is higherst in Dharmapuri district (57.26) and Tiruchirapalli has the second highest percentage (44.31). Female cultivators also form high percentages in these two districts. Thanjavur, principally an agricultural oriented district with large holdings by smaller number of families has the highest percentage of agricultural labourers to total workers (42.24) among the districts. Except Madras, Nilgiris and Kanniyakumari, all the other districts show 10-14 per cent of female agricultural labourers. Nilgiris is the only district to reveal a high percentage of (53.25) of workers (including 23.62 per cent of females) in industrial category III which is due to the existence of many plantations and orchards on its mountainous terrain. Kanniyakumari district known for its fishing activities has also 7.80 per cent of workers in this industrial category. Only South Arcot district (1.13 per cent), known for its lignite mining and Salem (0.75 per cent) known for mining of magnesite iron and some quantity of lime stone have comparatively higher ratio of workers under 'Mining and Quarrying'.

In the secondary sector, Madras reveals the highest ratio of workers (32.19 per cent) of which nearly 26 per cent is in non-household (Category V-b) or factory establishments engaged in manufacturing, processing, servicing and repairs. Female workers are negligible in this category in Madras. Coimbatore (21.06 per cent) and Tirunelveli (20.38 per cent) districts have also good ratios of workers in this sector. Salem and Tirunelveli districts have comparatively sizable proportion of workers in household industry (category V-a). Female workers in

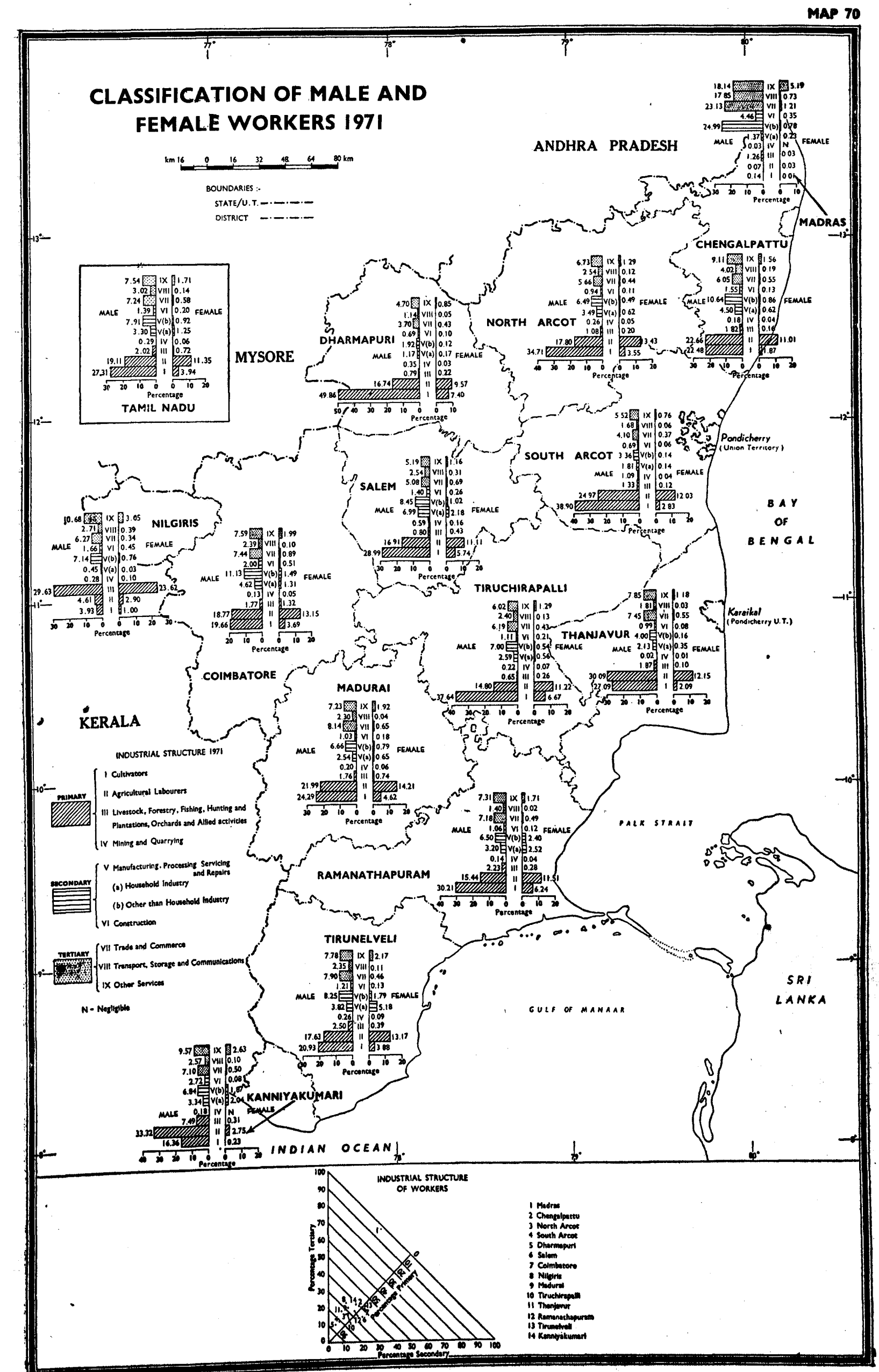
household industry form good proportions in Tirunelveli (5.18 per cent), Ramanathapuram (2.52 per cent), Salem (2.18 per cent) and Kanniyakumari (2.04 per cent) districts where beedi manufacture, handloom and match industries are prevalent. Workers in construction are significant only in Madras (4.81 per cent) though they are comparatively higher in ratio in Kanniyakumari and Coimbatore districts also. Female workers in construction form very low percentage.

Madras city has naturally the highest ratio of workers, under the tertiary activities (66 per cent). 'Trade and Commerce' and 'Other Services' are the important categories in this sector engaging 24.34 and 23.33 per cent (including 5.19 per cent of females) of workers respectively. Nilgiris and Kanniyakumari districts also show comparatively better ratios in tertiary sector with 23.44 and 22.47 per cent respectively. Transport, storage and communications which is important only in Madras and where male workers are predominant also falls under the tertiary sector.

The total workers and the proportion of workers in the primary, secondary and tertiary sectors of the economy are presented below for state and districts :

Unit	Total workers 1971	Percentage of workers engaged in sectors		
		Primary	Secondary	Tertiary
1	2	3	4	5
TAMILNADU	14,741,967	64.79	14.97	20.24
Madras	696,379	1.56	32.19	66.25
Chengalpattu.	980,755	60.22	18.30	21.48
North Arcot	1,333,169	71.09	12.13	16.78
South Arcot	1,255,163	81.31	6.21	12.48
Dharmapuri	610,878	84.96	4.17	10.87
Salem	1,182,279	64.74	20.29	14.97
Coimbatore	1,786,460	58.55	21.06	20.39
Nilgiris	191,813	66.07	10.49	23.44
Madurai	1,453,938	67.86	11.85	20.29
Tiruchirapalli.	1,425,869	71.53	12.00	16.47
Thanjavur	1,282,909	73.42	7.72	18.86
Ramanathapuram	1,020,345	66.10	15.79	18.11
Tirunelveli	1,171,516	58.86	20.38	20.76
Kanniyakumari.	350,494	60.64	16.89	22.47

Based on the proportion of workers in the primary, secondary and tertiary sectors, all the districts have been plotted in a tripartite diagram presented below the main map. It may be observed that most of the districts have a high proportion under 'primary' and the lowest proportion under 'secondary'.



CLASSIFICATIONS OF RURAL MALE AND FEMALE WORKERS 1971

This map shows the district-wise industrial structure of rural male and female workers as in 1971 Census. The cartographic technique is the same as for the previous map.

As the map is for rural areas, the preponderance of workers in primary sector of economic activity is only to be expected. At the state level, 81.31 per cent of the workers in rural areas belong to primary sector while 9.97 and 8.72 per cent are in tertiary and secondary sectors of activities respectively. Dharmapuri has the highest dependency on primary activities with 89.74 per cent of its rural workers engaged in it and is followed by the agriculture-oriented South Arcot district (88.02). Kanniyakumari (68.12 per cent), Tirunelveli (72.74 per cent) and Coimbatore (74.86 per cent) are the only districts which have less than three fourth of their rural workers in the primary sector. Cultivators alone form over one half of the rural workers in Dharmapuri (60.60 per cent) and Tiruchirapalli (52.04 per cent) districts and the rest of the districts have lower percentages of cultivators. Tiruchirapalli, Ramanathapuram and Dharmapuri districts have comparatively higher female participation as cultivators (about 8 per cent in total workers). Nilgiris has a very low rate of participation of male/female workers as cultivators. Agricultural labourers form the highest percentage of rural workers in Thanjavur district (48.26). The male agricultural workers form the highest percentage in Kanniyakumari (38.11) while female farm labourers show the maximum percentage in Madurai (17.72) district followed by Coimbatore (17.25). Of the rural workers in Nilgiris, males and females working in category III (plantations, orchards, etc.) form 37.14 and 28.48 per cent respectively. Plantations and fruit/vegetable growing is the most favoured occupation in the hilly tracts of this district. Kanniyakumari district in the coastal areas of which fishing is wide-spread, shows 8.02 per cent of its rural workers in this category (III). The rest of the districts have lower proportion of workers in category III. Very few workers are found to be engaged in Mining and Quarrying in the rural areas of all the districts.

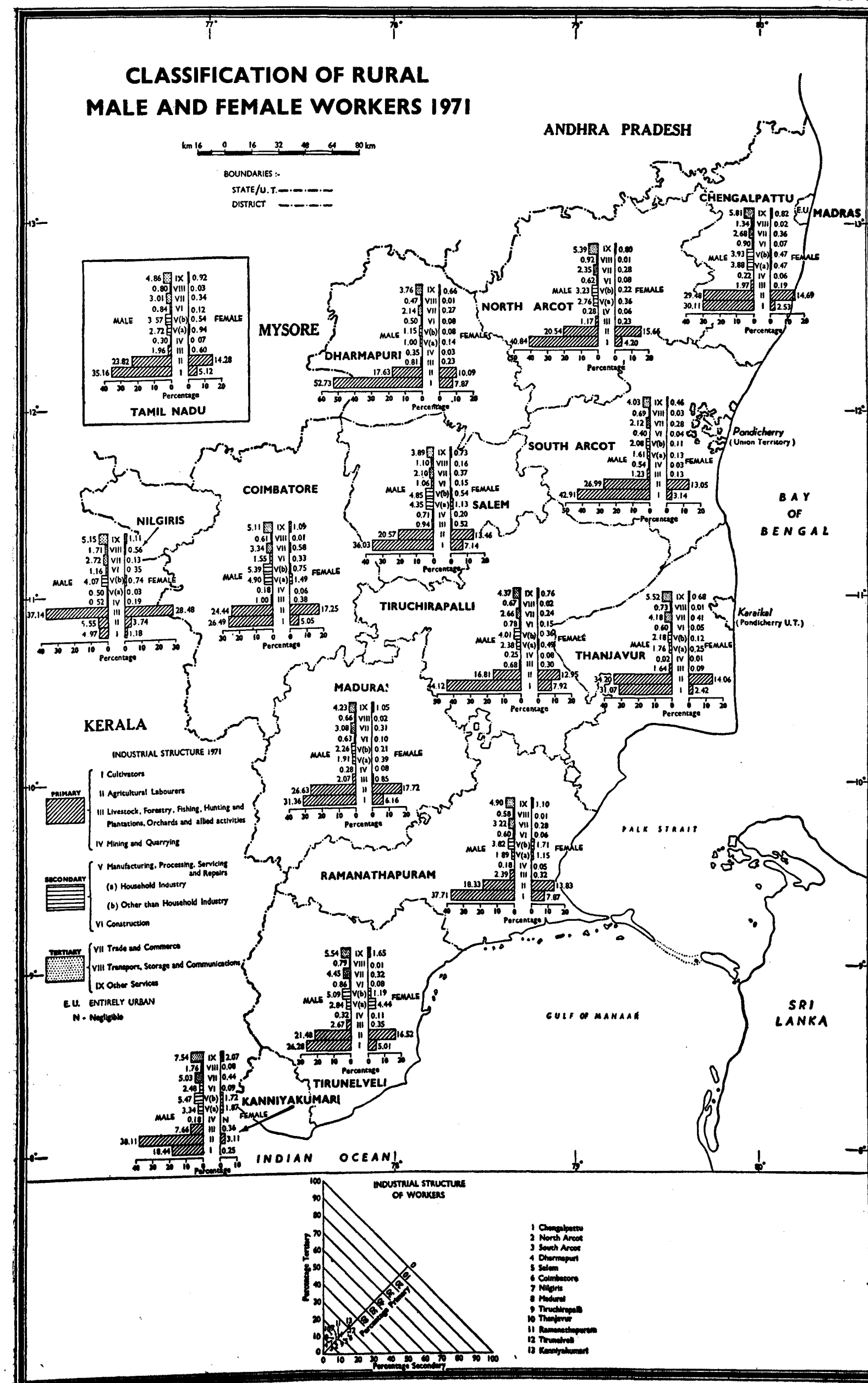
In the manufacturing categories of the secondary sector, the district of Salem, Coimbatore and Tirunelveli have a greater proportion of workers in the household industries than the factory and other non-household industrial units. Among household industrial workers in rural areas, the highest ratio for females is in Tirunelveli district (4.44 per cent). For males, Coimbatore district has the highest percentage of 4.90 per cent of rural workers engaged in household industry. Workers in non-household industrial units form comparatively higher ratios among the rural workers of the districts of Kanniyakumari (7.19 per cent), Tirunelveli (6.28 per cent) and Coimbatore (6.11 per cent). Construction workers in rural areas are not found in any significant ratio in the districts.

The highest percentage of rural workers in the tertiary sector is noticed in Kanniyakumari district (16.92) followed by Tirunelveli district (12.76 per cent) while Dharmapuri has the lowest (7.30). Trade and Commerce as also other services are the two important categories in the tertiary sector. In trade and commerce higher percentage of rural workers are observed in Kanniyakumari (5.47), Tirunelveli (4.77) and Thanjavur (4.59) districts. The rural areas of South Arcot, Dharmapuri and Salem have lower ratio of workers in trade and commerce. Female workers as traders in the rural areas of all districts form insignificant ratios. In the category of 'Other Services' also, a high percentage (7.54 of males and 2.07 of females) of rural workers is noticed in Kanniyakumari district, and lower percentages in South Arcot, Dharmapuri and Salem.

The rural workers in state and districts and their percentage distribution under the three sectors of the economy—primary, secondary and tertiary are given below :

Unit	Rural Workers 1971	Percentage of rural workers in sectors		
		Primary	Secondary	Tertiary
1	2	3	4	5
TAMILNADU	10,973,282	81.31	8.72	9.97
Madras ..	Entirely urban.			
Chengalpattu ..	684,634	79.25	9.72	11.03
North Arcot ..	1,107,027	82.99	7.26	9.75
South Arcot ..	1,114,914	88.02	4.37	7.61
Dharmapuri ..	569,310	89.74	2.96	7.30
Salem ..	909,332	79.57	12.08	8.35
Coimbatore ..	1,249,644	74.86	14.40	10.74
Nilgiris ..	102,748	81.76	6.86	11.38
Madurai ..	1,057,064	85.15	5.51	9.34
Tiruchirapalli ..	1,177,464	83.12	8.17	8.71
Thanjavur ..	1,071,371	83.52	4.96	11.52
Ramanathapuram ..	785,727	80.68	9.23	10.09
Tirunelveli ..	848,874	72.74	14.50	12.76
Kanniyakumari ..	295,173	68.12	14.96	16.92

A tripartite diagram with the districts plotted on it with reference to their percentage of workers in the three broad economic sectors is given below the main map. The bias of the rural areas towards primary sector and the workers' preference for the tertiary sector as next in importance to primary sector is very obvious from this diagram.



CLASSIFICATION OF URBAN MALE AND FEMALE WORKERS 1971

This map is similar in presentation to the earlier two maps (70 & 71) and gives the distribution of urban workers in 1971 census by industrial categories and sex. The cartographic technique is same as for map 70.

The tertiary sector which has in its fold 'trade and commerce' and 'other services' engages half of the urban workers in the state. While 33.16 per cent of the urban workers are dependent on the secondary sector, only a small ratio of 16.70 per cent are engaged in primary activities. Nearly 48 per cent of urban workers are engaged in primary sector in Nilgiris while Madras city shows 1.56 per cent only. The highest proportion of urban workers engaged as cultivators is recorded in Dharmapuri 11.48 per cent of which 10.49 per cent are male workers. Higher percentages of agricultural labourers in urban areas are noticed in Madurai (14.47), South Arcot (12.83), Tirunelveli (11.87) and Thanjavur (11.75) districts agriculture being an important occupation in these districts. All other districts have less than 10 per cent of workers as agricultural labourers. Madras and Nilgiris districts have low ratios of workers as cultivators and agricultural labourers. Owing to a good number of plantations and orchards in Nilgiris district, a sizable section of even urban workers is engaged in this category. Thirtynine per cent of urban workers of Nilgiris (consisting of 20.97 of males and 18.02 of females) are engaged in such work forming part of industrial category III. Kanniyakumari district has the second highest ratio of 6.66 per cent of workers in this category. Mining and quarrying is found to be the important activity in the urban areas only in South Arcot district (5.59 per cent) where lignite mining in Neyveli engages a larger number of workers.

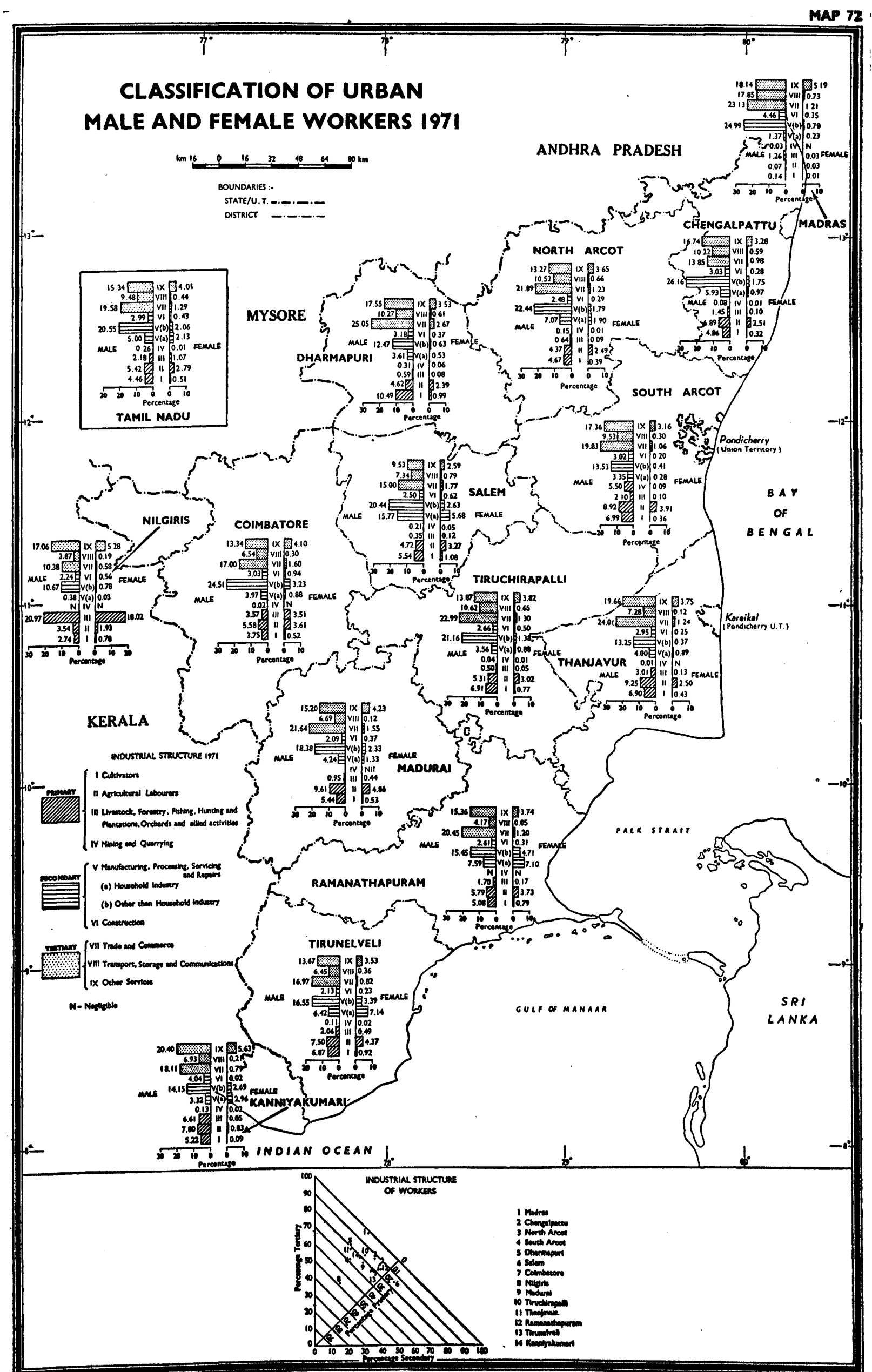
In the secondary sector, Salem district has the highest percentage of workers (47.64) followed by Chengalpattu and Ramanathapuram districts with 38.13 and 37.76 per cent respectively. Due to the popularity of handloom weaving as a favourite occupation here, 21.45 per cent of the districts urban workers are found engaged in this household industry. The percentage of male workers in household industry is high in Salem district. (15.77 per cent). Female workers in household industry have recorded the highest percentage (7.14) in Tirunelveli district. In the non-household or factory sector, over one-fourth of urban workers are engaged in Chengalpattu (27.91 per cent), Coimbatore (27.74 per cent) and Madras (25.77 per cent) districts. Nilgiris (11.45 per cent) and Dharmapuri districts (13.10 per cent) have comparatively lower ratios of workers in non-household industries. Urban workers engaged in construction form 4.81 per cent in Madras and 4.06 per cent in Kanniyakumari district and the rest have lower percentages. Female workers in construction form insignificant ratios.

Among districts, Madras city has the highest, nearly two thirds of its workers, in the tertiary sector followed by Dharmapuri (59.68 per cent) and Thanjavur (56.06 per cent). The lowest percentages of workers in this sector is in Salem (37.01) and Nilgiris (37.35). In trade and commerce, high percentages of workers mostly male workers are in Dharmapuri and Thanjavur districts (over 25 per cent). Madras has the highest ratio of workers in transport, storage and communications. Proportions of workers in 'other services' in urban areas range from 26.03 per cent in Kanniyakumari district to 12.12 per cent in Salem district. The highest percentage for both males (20.40) and as females (5.63) is recorded by Kanniyakumari district.

Data on urban workers in 1971 and the percentage distribution of workers into primary, secondary and tertiary sectors for state and districts are presented below :

Unit	Urban workers 1971	Percentage of workers in sectors		
		Primary	Secondary	Tertiary
1	2	3	4	5
TAMILNADU	3,768,685	16.70	33.16	50.14
Madras	696,379	1.56	32.19	66.25
Chengalpattu	296,121	16.22	38.13	45.65
North Arcot	226,142	12.82	35.97	51.21
South Arcot	140,249	27.97	20.80	51.23
Dharmapuri	41,568	19.54	20.78	59.68
Salem	272,947	15.35	47.64	37.01
Coimbatore	536,816	20.57	36.55	42.88
Nilgiris	89,065	47.97	14.68	37.35
Madurai	396,874	21.82	28.74	49.44
Tiruchirapalli	248,405	16.62	30.14	53.24
Thanjavur	211,538	22.23	21.71	56.06
Ramanathapuram	234,618	17.26	37.76	44.98
Tirunelveli	322,642	22.34	35.87	41.79
Kanniyakumari	55,321	20.77	27.17	52.06

All the districts have been plotted in a tripartite diagram below the main map, based on their percentage values under primary, secondary and tertiary sectors of the economy. The concentration of urban workers in the tertiary sector and their low absorption in the primary sector is obvious from the diagram.



MAP 73

CULTIVATORS IN TOTAL WORKERS IN AGE 15-59, 1971

This map shows the percentages of cultivators among workers in the working age-group of 15-59 for districts. The data have been derived from the 1971 Census Table B-I Part-A. All the districts have been brought under six broad ranges as indicated in the legend of the map, on the basis of their percentages. Cultivators alone (those who work on their own land or on land taken on lease from Government and private parties or as a tenant under private persons or institutions for payment of money, kind or share) have been considered for this map. Agricultural labourers, i.e. those who work in others land for wages have been excluded. Cultivation does not include plantations, orchardry, fruit growing, etc.

For the state as a whole, it is observed that among workers of 15-59 age-group, about 30 per cent are cultivators. It is in the district of Dharmapuri, we find the maximum per cent of 57.38 as cultivators out of the 507,595 workers in 15-59 ages. In no other district such a high proportion of cultivators is seen. Tiruchirappalli and South Arcot districts whose economy are agricultural-biased have also a high percentage of 43.67 and 41.13 respectively. In Thanjavur, which is the most important district in the state, from the point of view of agricultural production, only 28.20 per cent of workers in age-group 15-59 are cultivators. At the other end we see that the City district of Madras has a very small ratio of 0.13 per cent of cultivators followed by the mountainous Nilgiris with a low 4.65 per cent. This is due to the urban structure of Madras city district and high terrain and predominance of orchards and plantations in Nilgiris. Kanniyakumari district too has a very low ratio of 15.23 per cent of cultivators among workers in the age-group of 15-59. There are three districts viz., Coimbatore, Tirunelveli and Chengalpattu which are in the percentage range of 20 to 25. Eight of the fourteen districts of the state have recorded lower proportions of cultivators among workers of 15-59 ages when compared with the ratio for the state as a whole.

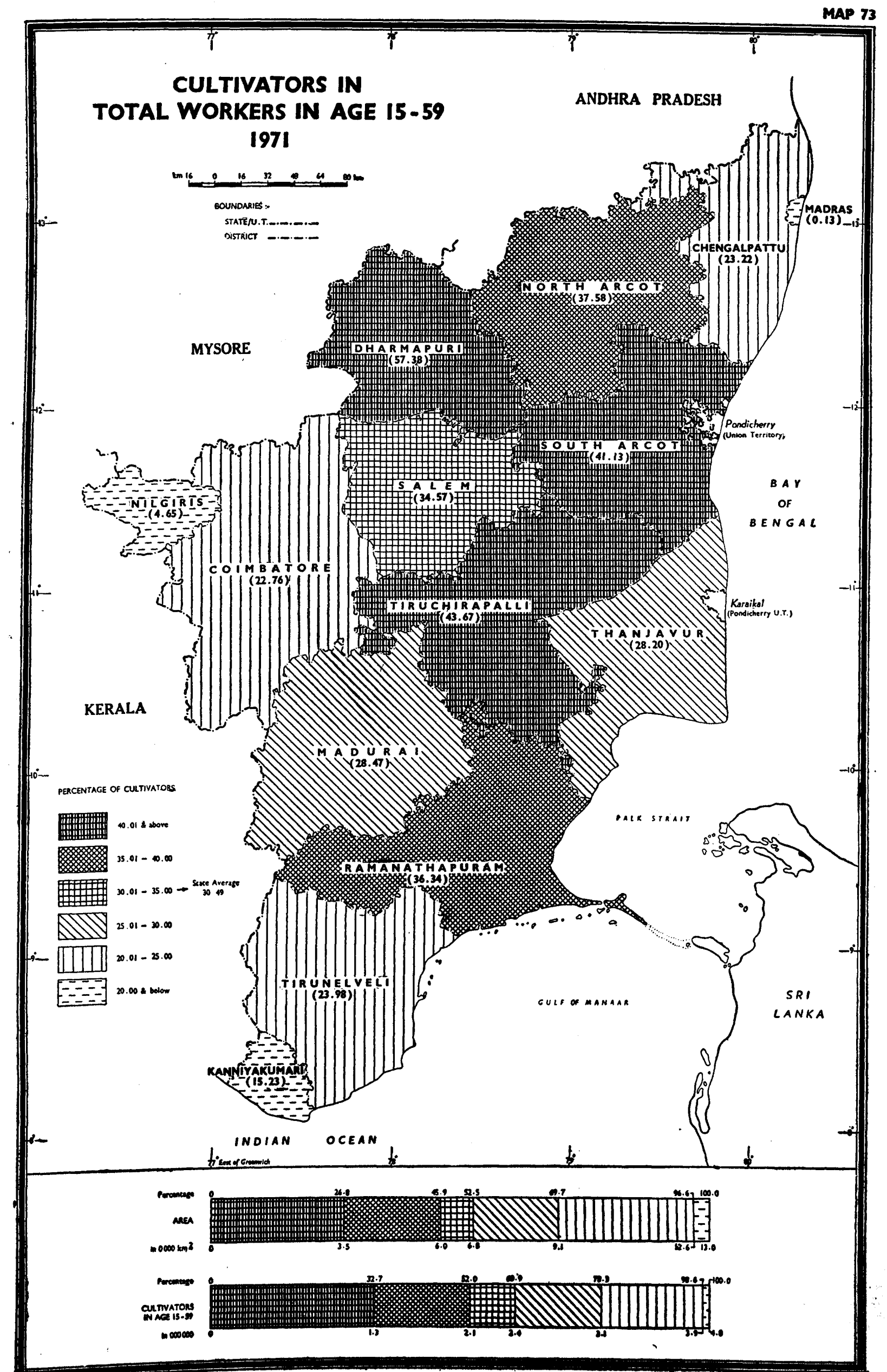
The total number of workers in 15-59 age-group in the state is 13.03 million of which 3.97 million are cultivators. While Tiruchirappalli district has over half-a-million of the total cultivators of 3.97 million, there are two other districts, viz. North Arcot and South Arcot

which have over 400,000 cultivators each. Madras, Nilgiris and Kanniyakumari have fewer cultivators compared to the rest of the districts.

Data on workers and cultivators in 15-59 age-group and the percentage of the latter to former are presented below :

Unit	Total workers in 15-59 age-group	Cultivators in 15-59 age-group	Percentage of Cultivators to workers, 15-59 age-group
1	2	3	4
TAMIL NADU ..	13,027,899	3,971,591	30.49
Madras ..	663,327	838	0.13
Chengalpattu ..	882,037	204,809	23.22
North Arcot ..	1,170,345	439,760	37.58
South Arcot ..	1,116,676	459,274	41.13
Dharmapuri ..	507,595	291,265	57.38
Salem ..	1,026,453	354,893	34.57
Coimbatore ..	1,559,809	355,045	22.76
Nilgiris ..	178,748	8,305	4.65
Madurai ..	1,292,465	367,944	28.47
Tiruchirappalli ..	1,257,711	549,252	43.67
Thanjavur ..	1,143,422	322,421	28.20
Ramanathapuram ..	893,875	324,860	36.34
Tirunelveli ..	1,023,039	245,353	23.98
Kanniyakumari ..	312,397	47,572	15.23

The geographical area in km² and the number of cultivators among workers of 15-59 age-group of the districts falling in the six ranges, from high to low, are presented in the form of two horizontal bar diagrams at the bottom of the map. The cumulative percentages and figures of area and cultivators for the six ranges are also indicated in these diagrams.



CULTIVATORS IN RURAL POPULATION 1971

This map shows the percentage of cultivators to population in the rural areas of the districts. The rural areas represent the villages and excludes areas declared as urban for purposes of 1971 Census. All the districts except Madras, which is wholly urban, have been grouped under six ranges for presentation as indicated in the legend of the map.

Among the state's rural population of 28.73 million, only 4.42 million are cultivators and they form a small proportion of 15.38 per cent. Dharmapuri district has a higher dependence on agriculture and this is revealed by the highest percentage of 22.49 recorded by this district. The only other district which has over twenty per cent of its rural population as cultivators is Tiruchirapalli (20.48 per cent). Salem district has the third highest ratio of 17.86 per cent.

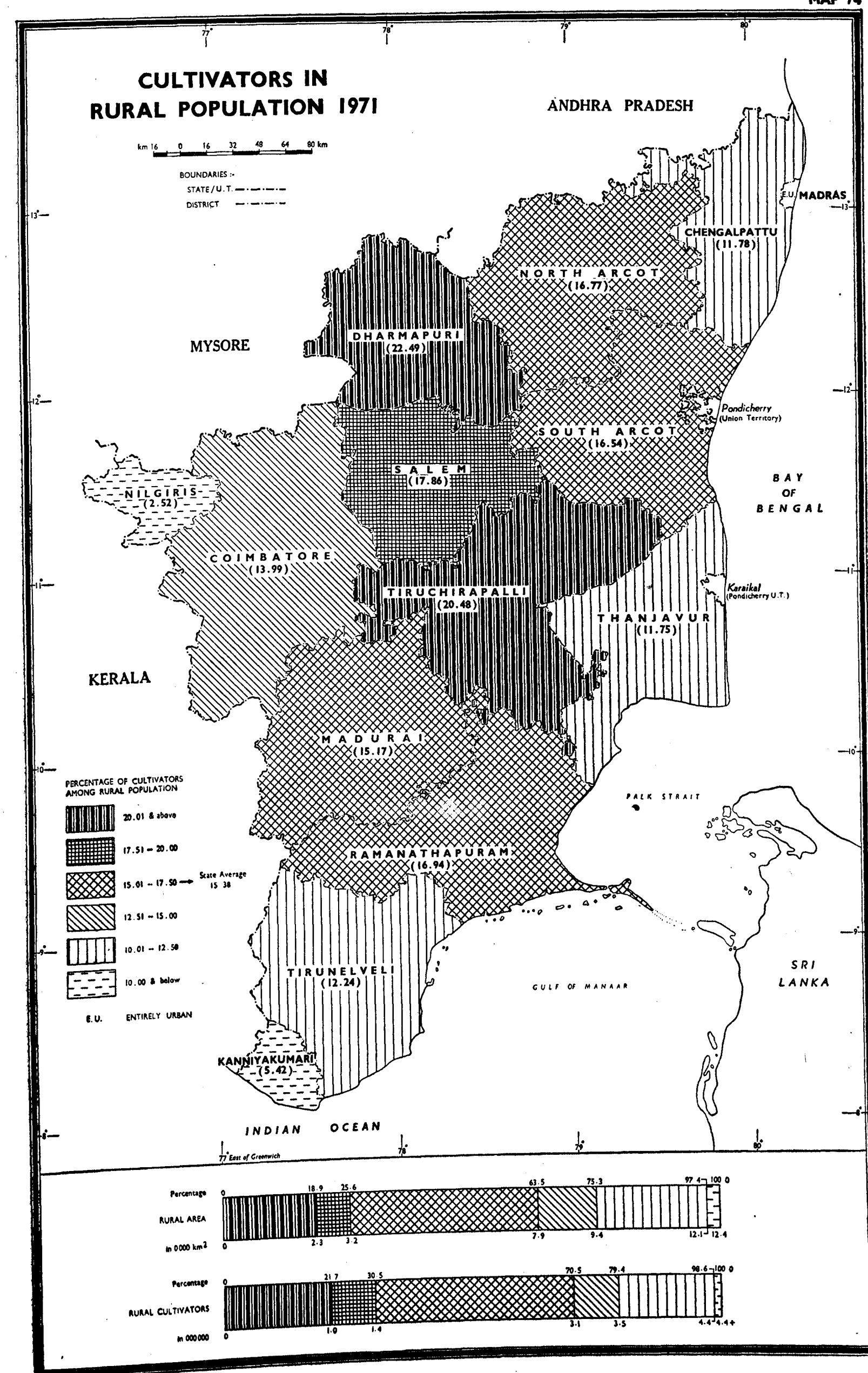
Nilgiris district has very few cultivators as its terrain is mostly hilly. The lowest number of rural cultivators for any district is recorded here, viz. 6,319 and they form only 2.52 per cent of the district's rural population. Kanniyakumari district has also very low percentage of cultivators to population in rural areas (5.42). There are three districts, viz. Chengalpattu, Thanjavur and Tirunelveli which have percentages in the range of 10.00 to 12.50. While six of the 13 districts show higher ratios than the state average figures of 15.38 per cent, the rest have lower ratios.

In actual numbers, the largest number of rural cultivators is found in Tiruchirapalli, viz., 612,725. South Arcot (513,410) and North Arcot (498,657) also have a sizable number of cultivators in the rural areas.

The data on rural population, cultivators in rural areas and their percentage for state and districts are given below :

Unit	Rural population	Cultivators in rural areas	Percentage of cultivators to population in rural areas
1	2	3	4
TAMIL NADU ..	28,734,334	4,420,636	15.38
Madras ..	Entirely urban.		
Chengalpattu ..	1,896,909	223,449	11.78
North Arcot ..	2,972,702	498,657	16.77
South Arcot ..	3,104,726	513,410	16.54
Dharmapuri ..	1,533,834	344,995	22.49
Salem ..	2,197,234	392,480	17.86
Coimbatore ..	2,816,936	394,208	13.99
Nilgiris ..	250,780	6,319	2.52
Madurai ..	2,614,003	396,641	15.17
Tiruchirapalli ..	2,991,808	612,725	20.48
Thanjavur ..	3,052,694	358,832	11.75
Ramanathapuram ..	2,113,545	358,117	16.94
Tirunelveli ..	2,171,019	265,625	12.24
Kanniyakumari ..	1,018,144	55,178	5.42

Two bar diagrams showing the area and rural cultivators of the districts of the six ranges from high to low are presented at the bottom of the map. The cumulative figures—actuals and percentages, for each of the ranges are indicated in these diagrams.



MALE CULTIVATORS IN MALE WORKERS IN AGE 15-59, 1971

This map shows the percentage of cultivators among male workers belonging to the working age-group of 15-59. The districts have been grouped under four broad ranges as shown in the legend of the map.

Most prominent among the districts is Dharmapuri, which is unique in having the highest percentage of cultivators among male workers of working ages 15-59, viz. 61.46 per cent; cultivation is the chief occupation in this district. No other district in the state has recorded over half of the male workers as engaged in cultivation. The other districts next in order are Tiruchirapalli (46.97 per cent) and South Arcot (46.06 per cent). These districts are also known for their bias towards agriculture. Three more districts, viz. North Arcot, Salem and Ramanathapuram have recorded between 35 and 45 per cent as cultivators among male workers of 15-59 age-group. The above districts with a high percentage of over 35 per cent form a contiguous region in the central and northern parts of the state, Ramanathapuram in the far south being an exception. It is significant to observe that in the well-known agricultural oriented district of Thanjavur (considered the granary of the state) the percentage of cultivators is 31.48, below that for the state as a whole, viz. 33.50 per cent. There are more number of agricultural labourers rather than cultivators in this district.

Madras, Nilgiris and Kanniyakumari districts have very low proportions of male cultivators, due to obvious reasons of economic activities related to urban characteristics in Madras and in Nilgiris due to fruit and vegetable cultivation, forestry plantations and the like which are not considered as cultivation. Kanniyakumari district too with a comparatively higher ratio of workers engaged in fishing as well as 'Other Services' has a low ratio of cultivators. A good proportion of workers here are also labourers engaged in agricultural work.

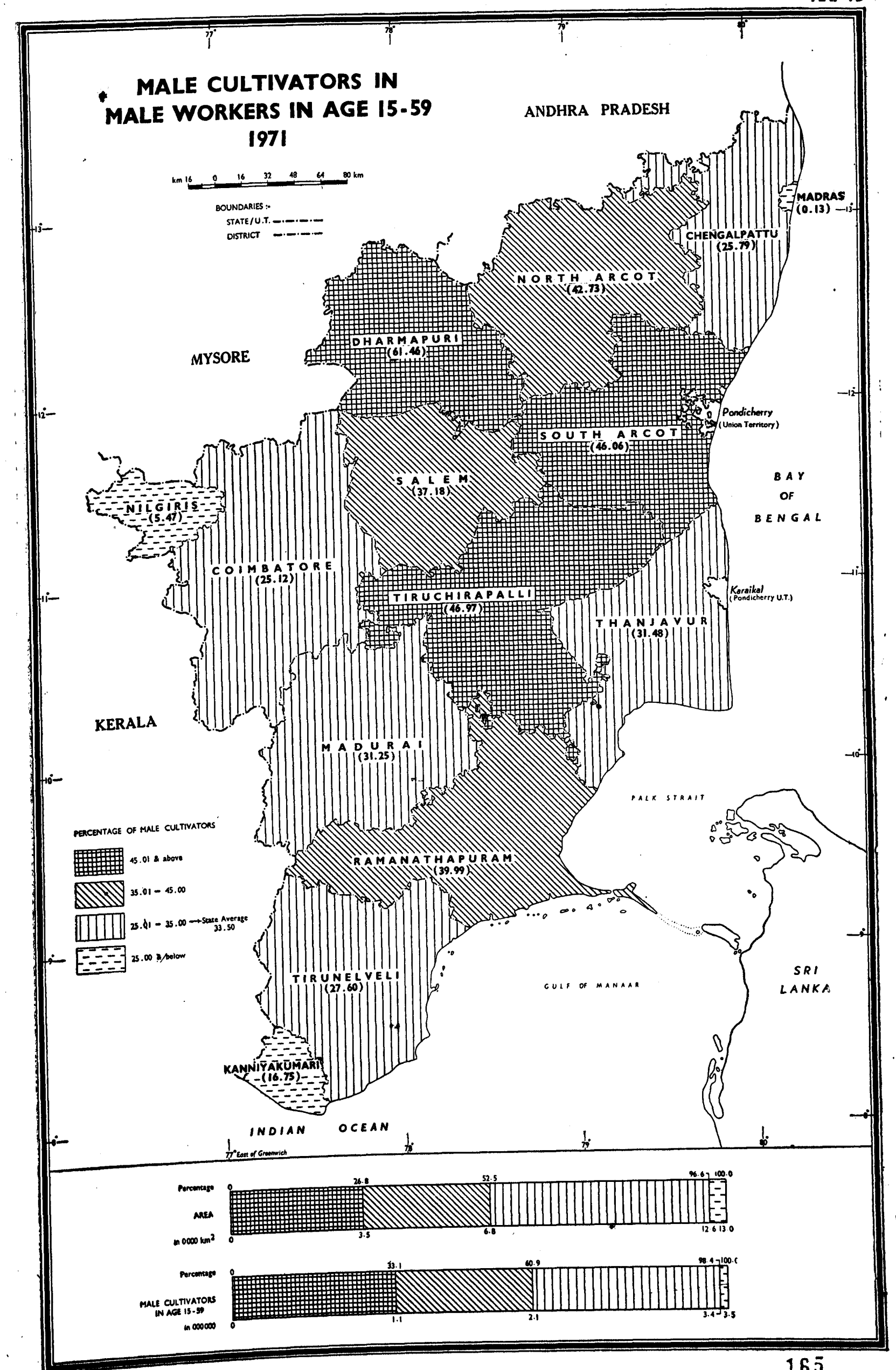
Out of a total of 10.33 million male workers of age-group 15-59 in the state, 3.46 million or 33.50 per cent are cultivators. Tiruchirapalli and South Arcot

districts have each over 400,000 of male cultivators of working age-group.

Data on male workers of 15-59, cultivators among them and their percentages are given below for the state and districts :

Unit	Male workers 15-59	Male cultivators 15-59	Percentage of male cultivators to male workers 15-59
1	2	3	4
TAMIL NADU ..	10,331,792	3,460,696	33.50
Madras ..	607,456	785	0.13
Chengalpattu ..	731,707	188,708	25.79
North Arcot ..	930,368	397,528	42.73
South Arcot ..	927,565	427,232	46.06
Dharmapuri ..	412,197	253,317	61.46
Salem ..	793,677	295,105	37.18
Coimbatore ..	1,184,116	297,500	25.12
Nilgiris ..	120,262	6,578	5.47
Madurai ..	985,972	308,115	31.25
Tiruchirapalli ..	990,773	465,328	46.97
Thanjavur ..	949,828	299,044	31.48
Ramanathapuram ..	671,802	268,646	39.99
Tirunelveli ..	745,759	205,847	27.60
Kanniyakumari ..	280,310	46,963	16.75

Two bar diagrams depicting area in km² and male cultivators of 15-59 of the districts coming under the four ranges from high to low are also presented below the map. The cumulative proportion and figures are shown for the four ranges in these diagrams.



MAP 76

FEMALE CULTIVATORS IN FEMALE WORKERS IN AGE 15-59, 1971

This map shows the percentage of cultivators among female workers of 15-59 age-group and is similar to the previous map for males. Based on the percentages recorded, all the 14 districts of the state have been grouped under four broad ranges. Data for this map also has been culled out from the 1971 Census Table B-1 Part-A.

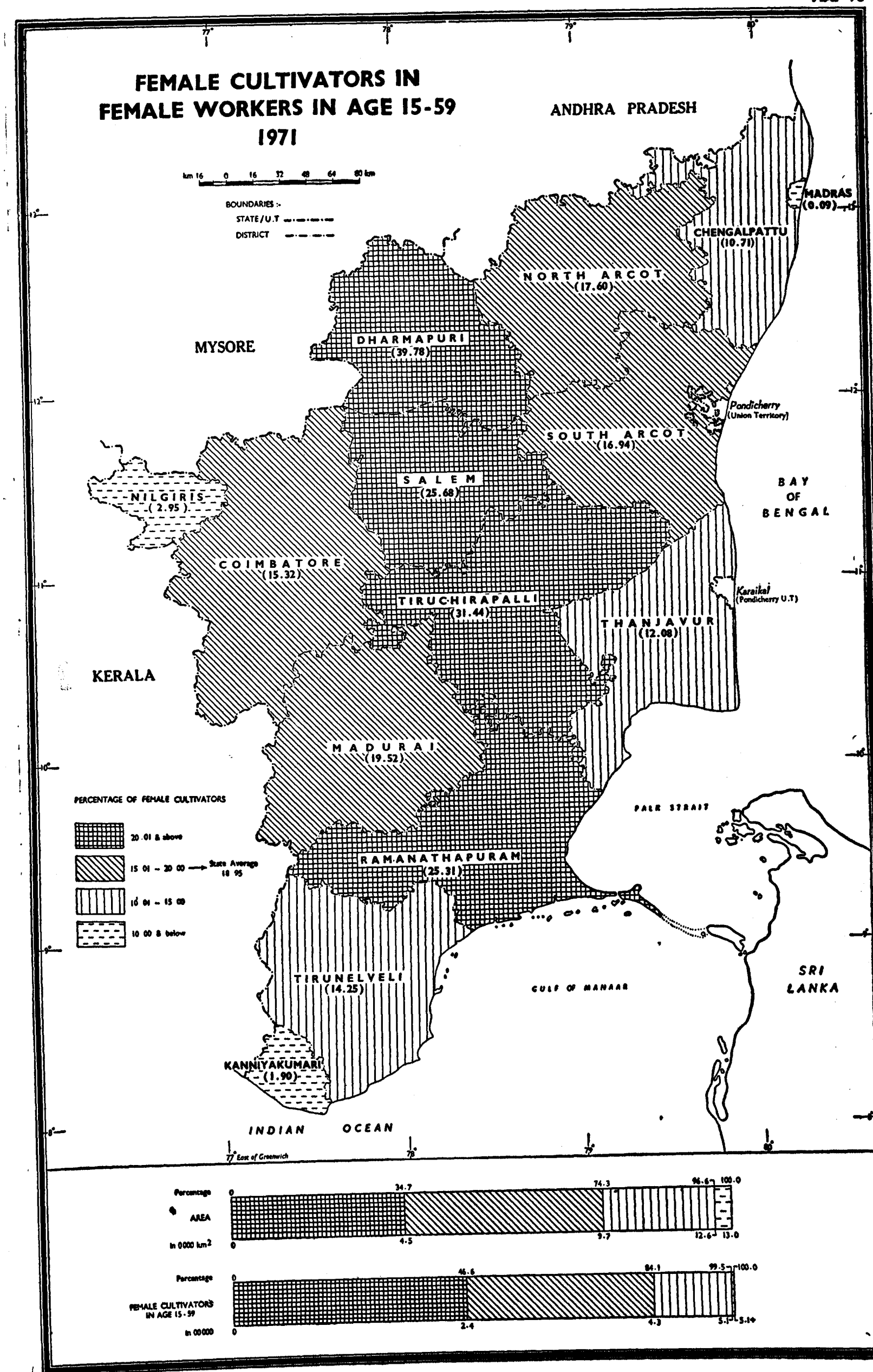
There are only 2.70 million female workers in 15-59 age-group in the State and of them 510,895 forming 18.95 per cent are cultivators. As in the case of males, here too, we find that Dharmapuri district has the highest percentage of cultivators, viz. 39.78. Tiruchirapalli district has the second highest proportion of 31.44 per cent. Salem (25.68 per cent) and Ramanathapuram (25.31 per cent) also have over one-fourth of their female working population of 15-59 ages as cultivators. The above four districts situated one above the other, lie north-south and form a continuous range.

Apart from Madras, Nilgiris and Kanniyakumari districts which have very low ratios (below three per cent) of cultivators among working women of 15-59 age-group, the agriculturally important districts of Chengalpattu, Thanjavur and Tirunelveli too have low percentages ranging from 10 to 15 per cent. 'Cultivation' is not so widespread among female workers, in the sense in which it is defined in Census. The most important avocation for females is agricultural labour which has in its fold over 50 per cent of female workers. There appears to be a preference among female workers to go in for agricultural work in others' land for wages in money or kind due to economic reasons. Among female workers, cultivation is of secondary importance.

Data on female workers and cultivators among them in age-group 15-59 along with the latter's percentage are given below for state and districts.

Unit	Female workers 15-59	Female cultivators 15-59	Percentage of cultivators among female workers 15-59
1	2	3	4
TAMIL NADU ..	2,696,107	510,895	18.95
Madras ..	55,871	53	0.09
Chengalpattu ..	150,330	16,101	10.71
North Arcot ..	239,977	42,232	17.60
South Arcot ..	189,111	32,042	16.94
Dharmapuri ..	95,398	37,948	39.78
Salem ..	232,776	59,788	25.68
Coimbatore ..	375,693	57,545	15.32
Nilgiris ..	58,486	1,727	2.95
Madurai ..	306,493	59,829	19.52
Tiruchirapalli ..	266,938	83,924	31.44
Thanjavur ..	193,594	23,377	12.08
Ramanathapuram ..	222,073	56,214	25.31
Tirunelveli ..	277,280	39,506	14.25
Kanniyakumari ..	32,087	609	1.90

Bar diagrams showing the area and female cultivators of 15-59 age-group in the four ranges from high to low are also presented wherein the cumulative percentages and figures for the four ranges are marked.



AGRICULTURAL LABOURERS IN TOTAL AGRICULTURAL WORKERS IN AGE 15-59, 1971

This map shows the proportion of agricultural labourers among all persons engaged in work connected with agriculture, in age-group 15-59, in the different districts of the State. The fourteen districts have been grouped into six broad ranges according to the legend of the map.

In 1971 Census, the workers have been classified under nine broad industrial categories and those falling under the first two industrial categories of 'Cultivators' and 'Agricultural Labourers' have been considered here as persons engaged in agricultural work. According to Census definition, a 'Cultivator' is one who is engaged in cultivation either personally or by supervision or direction in one's capacity as the owner or lessee of land held from Government or as a tenant of land held from private persons or institutions for payment of money, kind or share. Cultivation involves ploughing, sowing and harvesting, and production of cereals and millet crops, pulses, raw jute and kindred fibre crops, cotton, etc. and other commercial crops such as sugarcane, groundnuts, tapioca, etc. It does not include fruit or vegetable growing or keeping orchards or groves or working in plantations. An agricultural labourer is a person who works in another person's land for wages in money, kind or share, suffers absolutely no risk in cultivation, and merely works for wages without any right whatsoever, of lease or contract, over the land on which he works.

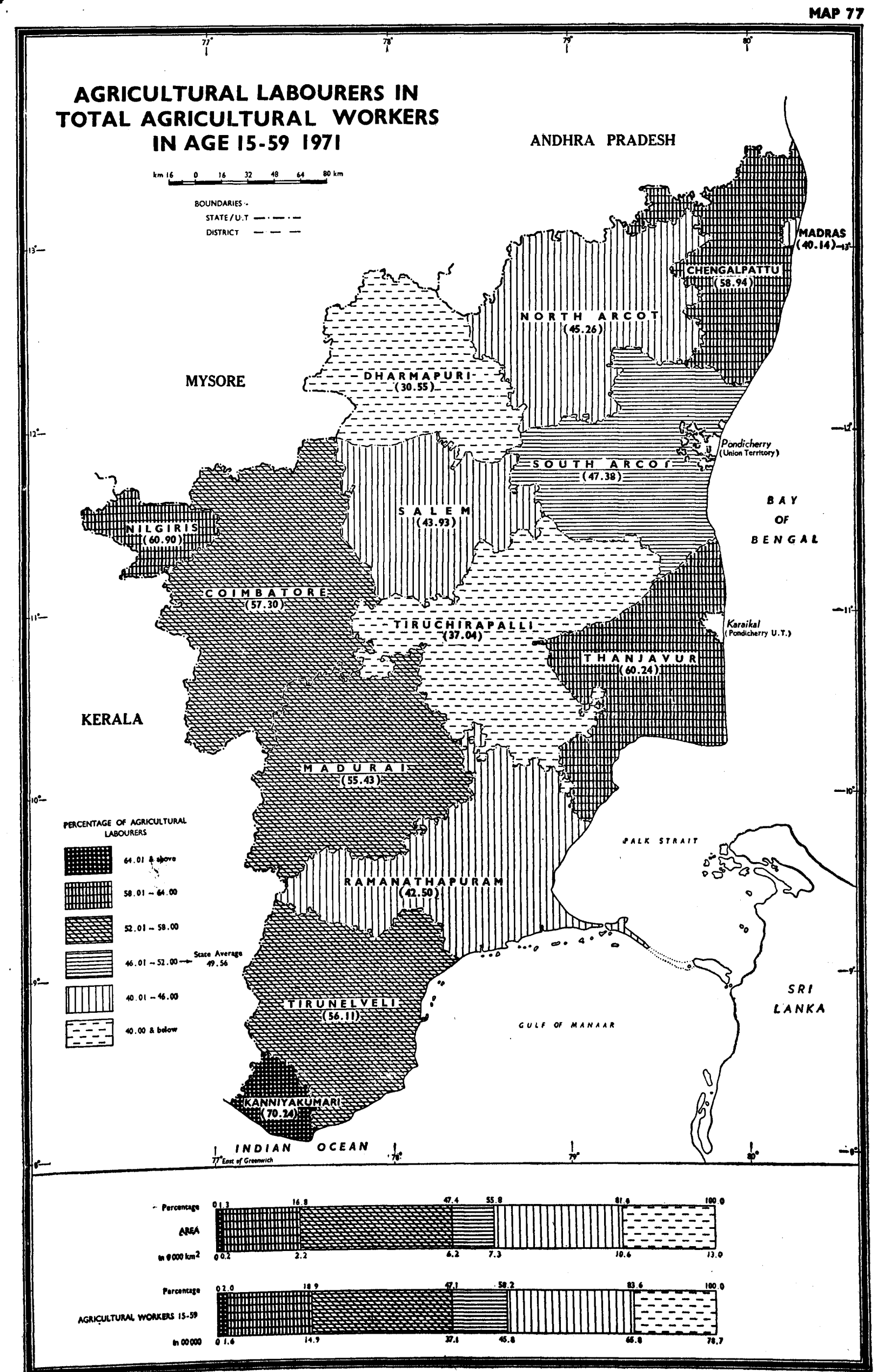
In the State as a whole there are 7.87 million cultivators and agricultural labourers. The agricultural labourers number 3.90 million constituting 49.56 per cent of the total workers in agricultural activities. Nearly half the workers on land have no stake in it and are mere wage earners. Kanniyakumari district has the highest proportion of agricultural labourers of 70.24 per cent. The other three districts which have high ratio are—Chengalpattu (58.94 per cent), Nilgiris (60.90 per cent) and Thanjavur (60.24 per cent), all located in different corners of the State. It is apparent that in these districts, fewer peoples are cultivators while wage earners (labourers) under them are comparatively more. The district in which the labourers form a small ratio is Dharmapuri (30.55 per cent) and obviously, a majority of the agricultural workers here are 'Cultivators' and fewer persons are engaged on wages. Tiruchirapalli too has a low per cent of agricultural labourers, viz., 37.04. While in seven districts, over half of the agri-

cultural workers are labourers, in the other seven the labourers form below 50 per cent and consequently these districts have a higher proportion of cultivators.

Data on agricultural workers of age-group 15-59, labourers among them and the latter's ratio are presented for State and districts below :

Unit	Agri-cultural workers of age-group 15-59	Agri-cultural labourers among those in Col. 2.	Percentage of agri-cultural labourers to agricultural workers
1	2	3	4
TAMIL NADU ..	7,874,129	3,902,538	49.56
Madras ..	1,400	562	40.14
Chengalpattu ..	498,778	293,969	58.94
North Arcot ..	803,345	363,585	45.26
South Arcot ..	872,807	413,533	47.38
Dharmapuri ..	419,379	128,114	30.55
Salem ..	632,995	278,102	43.93
Coimbatore ..	831,468	476,423	57.30
Nilgiris ..	21,242	12,937	60.90
Madurai ..	825,547	457,603	55.43
Tiruchirapalli ..	872,361	323,109	37.04
Thanjavur ..	810,943	488,522	60.24
Ramanathapuram ..	564,943	240,083	42.50
Tirunelveli ..	559,069	313,716	56.11
Kanniyakumari ..	159,852	112,280	70.24

The area in km² and the total agricultural workers in age-group 15-59 of the districts falling in the six ranges from high to low are shown both in actual figures and percentages, in the two bar diagrams below the map.



MAP 78

NON-AGRICULTURAL WORKERS IN PRIMARY SECTOR 1971

This map shows the percentage of non-agricultural workers engaged in the primary sector of activities. The non-agricultural workers for the state and districts along with their percentage distribution under five broad heads viz., (i) livestock and hunting, (ii) fishing, (iii) forestry, (iv) mining and quarrying and (v) others are represented in proportionate circles and shown as pie diagrams. The districts have all been grouped into six ranges as shown in the map legend. The data for the map have been taken from 1971 Census Table B-IV Part-A.

Primary sector of activity includes all occupations connected with the production of basic goods and commodities, more as raw goods without undergoing any form of processing. Primary sector thus include the four basic industrial categories of (i) cultivators, (ii) agricultural labourers; (iii) livestock, forestry, fishing, hunting, plantations, orchards and allied activities and (iv) mining and quarrying.

Percentage of non-agricultural workers in the primary sector is the highest in the city district of Madras (84.25) though the number of such workers is small, viz., 9,146. This is to be expected in view of its urban character and the restricted sphere of primary activities in the city area. Nilgiris district with its widespread plantations, fruit and vegetable growing areas, forestry, etc., has the second highest percentage of 81.17. Kanniyakumari lying at the confluence of the three oceans at the southern tip of the peninsular India, is important in fishing and this district has the third highest percentage of 13.16 of non-agricultural workers. At the lower bracket, Coimbatore and Tirunelveli districts have higher ratios in the range of 5 to 6 per cent, the rest of the districts falling below. The state average ratio of non-agricultural workers is 4.75 per cent and nine districts have lower percentages than the state average.

There are 453,949 workers in Tamil Nadu who are engaged in livestock, forestry, fishing, etc. and mining

and quarrying. The largest number of such workers has been returned in Nilgiris district (102,872). Coimbatore, Madurai, South Arcot and Tirunelveli districts have each between 30,000 to 60,000 workers in non-agricultural activities.

Livestock and hunting (which includes livestock production including rearing/breeding of domesticated animals, birds etc.) is important in North Arcot, Dharmapuri, Tiruchirapalli, Tirunelveli and Ramanathapuram where the workers in these jobs form over half of the non-agricultural workers in primary sector. Fishing as an important non-agricultural activity is very prominent in Kanniyakumari district with a percentage of 76.62. Marine fishing in the surrounding oceans is an important activity here. Fishing is the occupation over one half of the non-agricultural workers of the coastal districts of Madras and Thanjavur.

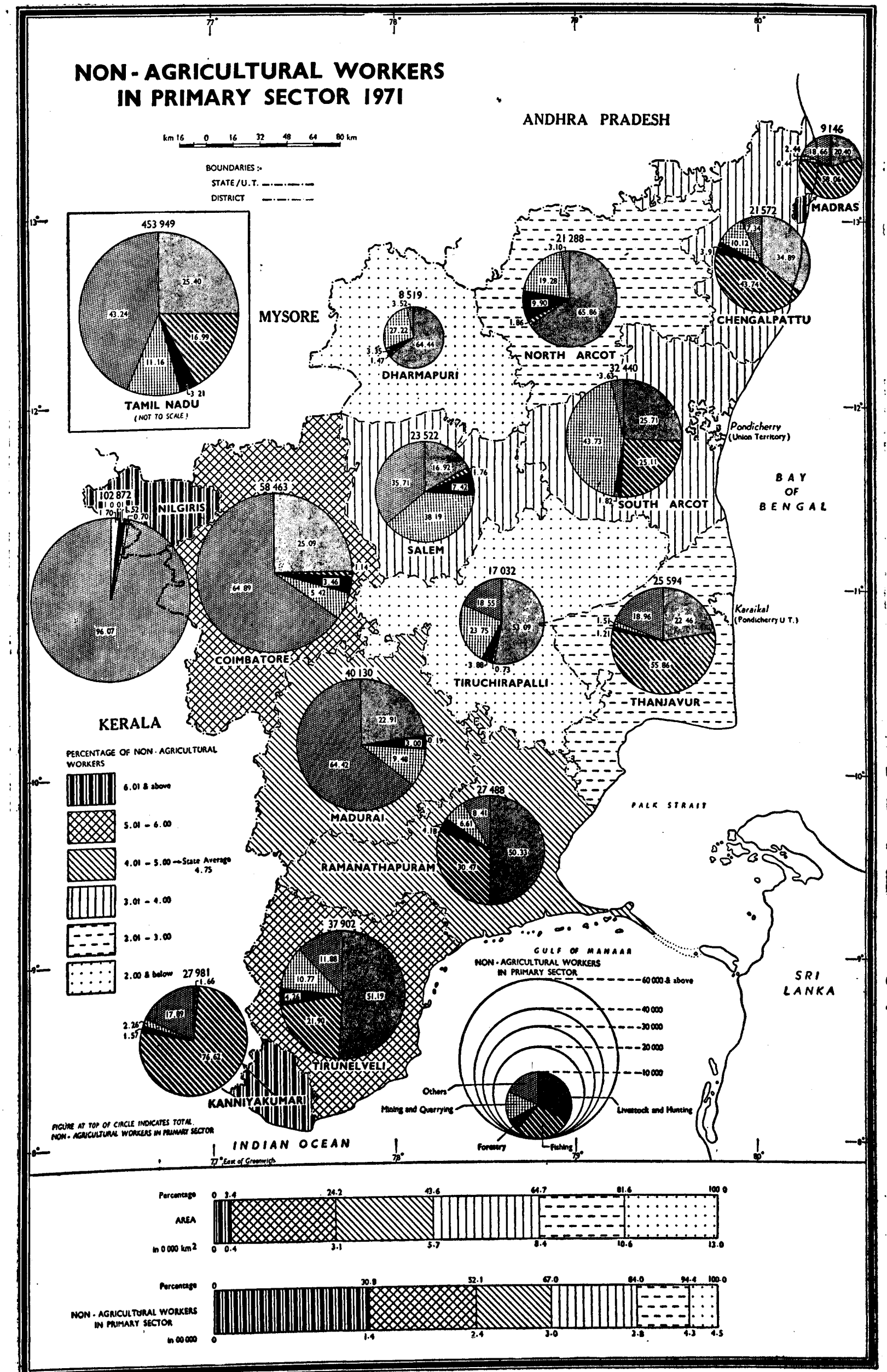
Forestry has a comparatively higher proportion of the non-agricultural workers in North Arcot district (9.90 per cent) and Salem district (7.42 per cent). No other district has more than five per cent. In view of the lignite mining, South Arcot district shows the highest percentage of 43.73 under mining and quarrying. The adjoining districts of Salem, Dharmapuri, Tiruchirapalli and North Arcot also show a good proportion of 'mining and quarrying' workers, where bauxite, iron ore, limestone, etc. are found. In other categories which includes, plantation agricultural production and agricultural services, almost the entire non-agricultural workers in Nilgiris are found (96.07 per cent). Madurai and Coimbatore districts also have high ratios of about 65 per cent under 'Others.'

The number of non-agricultural workers in the five categories depicted in the map and the percentage of non-agricultural workers to all workers in the primary sector are given below for state and districts.

Unit	Non-agricultural workers engaged in					Percentage of non-agricultural workers to workers in Primary Sector
	Livestock & Hunting	Fishing	Forestry	Mining and Quarrying	Others	
1	2	3	4	5	6	7
TAMIL NADU ..	115,326	77,119	14,574	50,654	196,276	4.75
Madras ..	1,866	5,310	40	223	1,707	84.25
Chengalpattu ..	7,526	9,435	844	2,183	1,584	3.65
North Arcot ..	14,021	395	2,108	4,104	660	2.25
South Arcot ..	8,341	8,145	590	14,185	1,179	3.18
Dharmapuri ..	5,490	125	285	2,319	300	1.64
Salem ..	3,979	415	1,746	8,982	8,400	3.07
Coimbatore ..	14,669	664	2,023	3,167	37,940	5.59
Nilgiris ..	1,745	15	1,560	726	98,826	81.17
Madurai ..	9,194	75	1,205	3,805	25,851	4.07
Tiruchirapalli ..	9,043	125	660	4,045	3,159	1.67
Thanjavur ..	5,749	14,297	310	385	4,853	2.72
Ramanathapuram ..	13,834	8,377	1,149	1,817	2,311	4.08
Tirunelveli ..	19,404	8,302	1,614	4,081	4,501	5.50
Kanniyakumari ..	465	21,439	440	632	5,005	13.16

The geographical area and the number of non-agricultural workers of the districts falling in the six ranges from high to low are shown in two horizontal

bar diagrams with indications of the cumulative percentages and actual figures for the ranges.



WORKERS IN MANUFACTURING, PROCESSING, SERVICING AND REPAIRS 1971

This map shows the taluk-wise percentage of workers engaged in production processes, among total workers in 1971 Census. Workers in the household industries, factories, workshops and worksheds who are all engaged in manufacturing, processing servicing or repairs have been considered here. Based on the percentages, all the 116 taluks and Madras City (considered as one unit) have been grouped under six broad ranges as shown in the map legend.

At the state level, there are 1.97 million workers engaged in the various manufacturing, processing, servicing and repairs. It forms 13.38 per cent of the State's total workers. Only 33 taluks and Madras City have recorded higher percentages than the state average and the rest have lower ratios. The highest percentage of workers engaged in manufacturing, processing, servicing and repairs is recorded in Saidapet taluk (34.76) of Chengalpattu district where a little over one-third of all workers are engaged to this activity. This taluk encircles Madras City and has a number suburban towns like Tiruvottiyur, Avadi, Ambattur, Pallavapuram, Madhavaram, Thiruvannmiyur and a host of other smaller towns. There are several factories of different sizes in these areas which are engaged in the manufacture of a variety of capital and consumer goods. Madurai south taluk (33.10 per cent), Coimbatore taluk (32.05) and Salem taluk (30.03) are the other Taluks with high percentages of workers engaged in manufacturing processes. All these taluks have, within their area, big agglomerations of urban population as their satellite towns and have a number of factories and workshops. In Salem, however, over half of the workers engaged in manufacturing work are in household industry, chiefly handlooms. There are eight other taluks which have between 25 to 30 per cent of their workers engaged in production processes.

It may be observed from the map that the taluks with high percentage (over 17 per cent) occur in places where cities or big towns with a number of factories or workshops, exist. There are a few other Taluks in this range which have a number of household industrial unit. Concentrations of taluks with a comparatively higher percentage of workers are in the northern part

in Madras—Chengalpattu—North Arcot regions, the area between Salem and Coimbatore taluks including Karur, Erode and Mettur taluks in the western region and in Madurai and the contiguous taluks in Ramanathapuram and Madurai districts. All the 47 taluks which fall in the three high percentage ranges of above 17, 14.01—17.00 and 11.01—14.00 excepting Tiruchirapalli, Lalgudi and Kumbakonam taluks, lie in concentration in the regions specified above.

Seventy taluks have percentages of manufacturing workers of eleven and below and sixty-seven of them have less than ten per cent. All the taluks of South Arcot, Dharmapuri and Nilgiris districts, and except one in Thanjavur district and a majority of taluks in North Arcot, Madurai, Tiruchirapalli and Ramanathapuram districts are in the three lower ranges of 8.01—11.00 per cent, 5.01—8.00 per cent and 5.00 and below. The largest number of taluks (30) for any one range is found in the range of 5 per cent and below. There are 23 taluks in the percentage range of 5.01—8.00 per cent. From the above dispersal of taluks in the lower ranges, one can have an idea of the industrially backward regions of the state, which can be easily identified in the map.

Kodaikanal taluk (2.60 per cent) in Madurai district, Orathanad taluk (2.67 per cent) in Thanjavur district and Chengam taluk (2.85 per cent) in North Arcot district have recorded lowest percentages of manufacturing workers among the taluks of the state.

Nearly 1.20 million workers (or 61 per cent) out of the 1.97 million industrial workers of the state are concentrated in 27 taluks of the state.

An inset map for Madras Standard Urban Area shows the percentages of workers in manufacturing, processing and repairs in Madras, four municipalities and areas of five taluks which constitute the Madras Standard Urban Area.

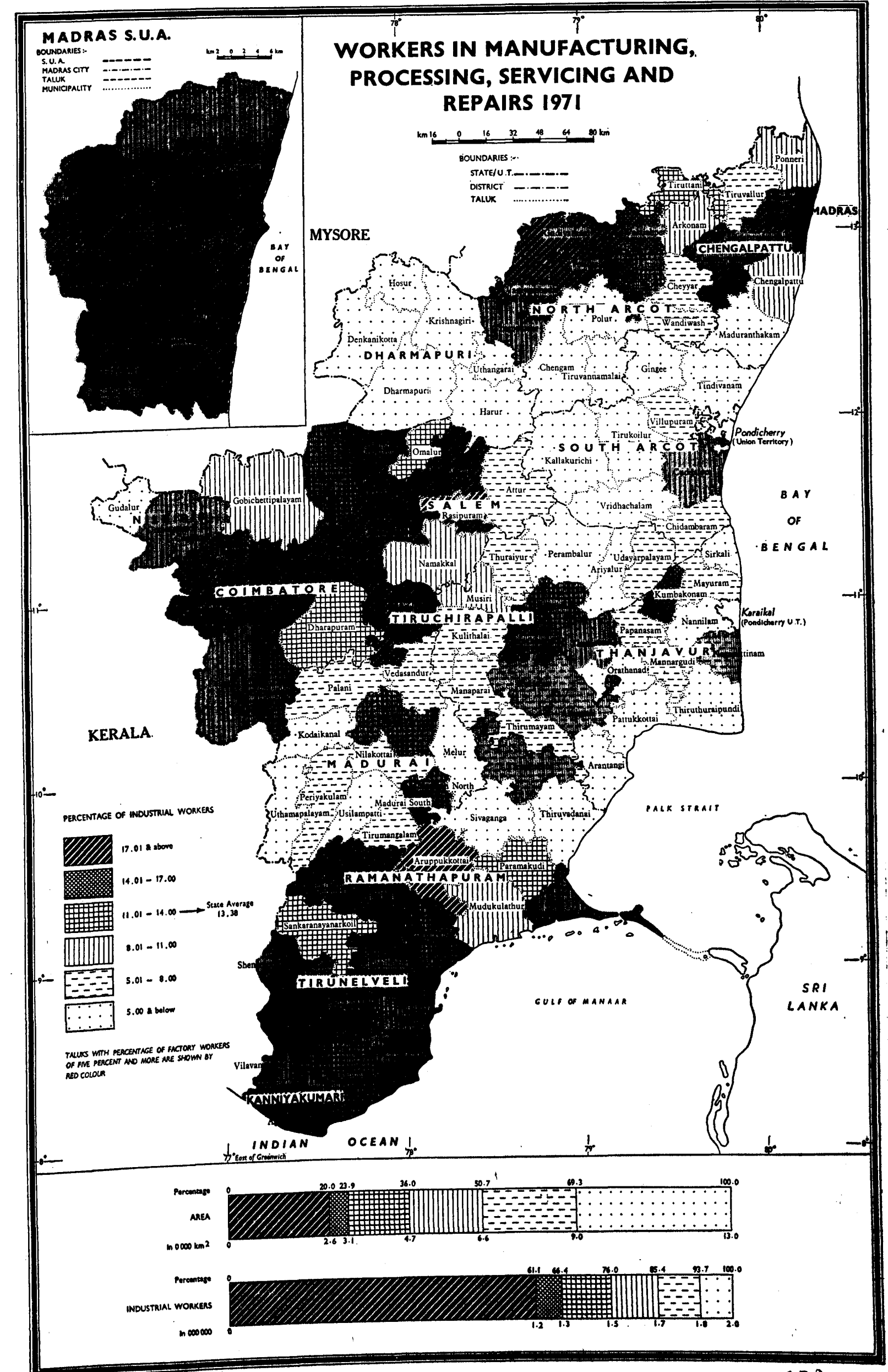
Data on the number of workers engaged in manufacturing, processing, servicing and repairing, their percentage to total workers and the number of taluks falling above and below the state percentage of industrial workers are given for state and districts.

Unit	Workers in manufacturing, processing, servicing and repairing	Percentage of Col.2 to all workers	Number of taluks with percentage of manufacturing, processing and repairing	
			Above 13.38 per cent	Below 13.38 per cent
1	2	3	4	5
TAMIL NADU	1,972,337	13.38	34	83
Madras*	190,657	27.38	1	—
Chengalpattu	163,022	16.62	3	5
North Arcot	147,735	11.08	5	8
South Arcot	68,489	5.46	—	8
Dharmapuri	20,669	3.38	—	6
Salem	220,293	18.63	5	3
Coimbatore	331,422	18.55	5	4
Nilgiris	16,062	8.37	—	3
Madurai	154,725	10.64	1	11
Tiruchirapalli	152,286	10.68	2	11
Thanjavur	85,308	6.65	1	11
Ramanathapuram	149,161	14.62	3	6
Tirunelveli	223,135	19.05	6	5
Kanniyakumari	49,373	14.09	2	2

* considered as one taluk unit here

The two horizontal bar diagrams shown below the main map give the area in km² and number of industrial workers (as also their percentages) in cumulative terms,

for the taluks falling in each of the six ranges as shown in the map legend (from high to low).



HOUSEHOLD INDUSTRIES BY TYPES AND SIZE OF EMPLOYMENT 1971

This map shows the extent of employment in the different types of household industries. Vertical bars with distinct shades are drawn to depict the eight broad types of household industries with scales indicating the number of workers employed and their percentages, for each district. The bars have been arranged in the order of importance of the industries from the point of view of employment. Data for this map have been gathered from the Appendix to 1971 census economic Table B-IV Part A.

In census parlance, household industry is one conducted by the head of the household himself and/or mainly by the members of the household at home or within the village in rural areas and only within the premises of the house where the household lives in urban areas. The industry should not be run on the scale of a registered factory. There are 669,913 workers engaged in household industries in Tamil Nadu as per 1971 census forming 4.54 per cent of the State's total workers of 14.74 million. Roughly 55 per cent of these household workers are engaged in manufacture of textile goods. Handloom comes out to be a prominent labour oriented household industry in the state. Forest and agro-based industries engage nearly 14 per cent each of the State's household industry workers. Mineral based industries engage 8.61 per cent, miscellaneous industries 5.62 per cent and engineering industries 1.13 per cent of the total workers engaged in household industries in the state.

In all the districts textile industry (mostly cotton and silk) stands out prominently as the single industry employing the largest number of household industry workers, the only exception being Tirunelveli where agro-based industry has the first place and the textile industry comes in the second rank. Among all the districts, Salem, renowned for its handlooms employs the highest percentage of workers, viz. 81.75 in the textile industries. The other prominent districts in this type of industry are Chengalpattu (71.08 per cent) and Ramanathapuram (66.41 per cent). Madras, Tirunelveli, Tiruchirappalli and Thanjavur districts have comparatively lower ratio of workers (34 to 40 per cent) in this type of industry.

Agro-based industry is the much favoured vocation for household industry workers in Tirunelveli district where 36.82 per cent of workers are engaged in the

manufacture of food products, beverages, tobacco products etc. Kanniyakumari with 28.99 per cent and Madras with 28.52 per cent of such workers are the second and third important districts in this type of industry. Madurai, Salem and South Arcot have very low percentages of below 5 per cent of workers in agro-based industries.

Forest-based industries are the second important of the industries in ten districts and the third important in the remaining four districts of the state. very high percentage of household workers in this industry is found in Thanjavur (26.66), South Arcot (23.34), Madurai (20.18) and Tiruchirappalli (20.07) districts. Wood products, furniture and paper products are the main fields of manufacture falling under this category. Salem and Coimbatore districts engage less than one-tenth of workers in such industries.

Mineral-based industries engage over 15 per cent of workers in South Arcot (18.52) and Thanjavur (15.53) districts. Such industries include workers engaged products in manufacture of metallic and non-metallic products, basic metals and alloys. Miscellaneous industries which include printing and publishing as also repair are important only in Tiruchirappalli, Nilgiris and Madras where about 10 to 15 per cent of workers are engaged in such manufactures. Engineering products are generally not produced in the household industry sector. Three to four per cent of household industry workers are however engaged in such industries in Madurai and Tiruchirappalli districts which alone stand out as important.

In livestock and fish-based industries and in chemical industries, not even one per cent of household industry workers are found at State level. Madras and Dharmapuri districts have 6.54 and 5.73 per cent of their respective household industry workers in livestock and fish-based manufacturing units. In chemical industries, the less industrially developed districts of Nilgiris (3.91), Ramanathapuram (3.48) and Dharmapuri (2.01) show comparatively higher ratios. These industries include production of common salt, rubber, plastic, coal products and other chemicals and chemical products.

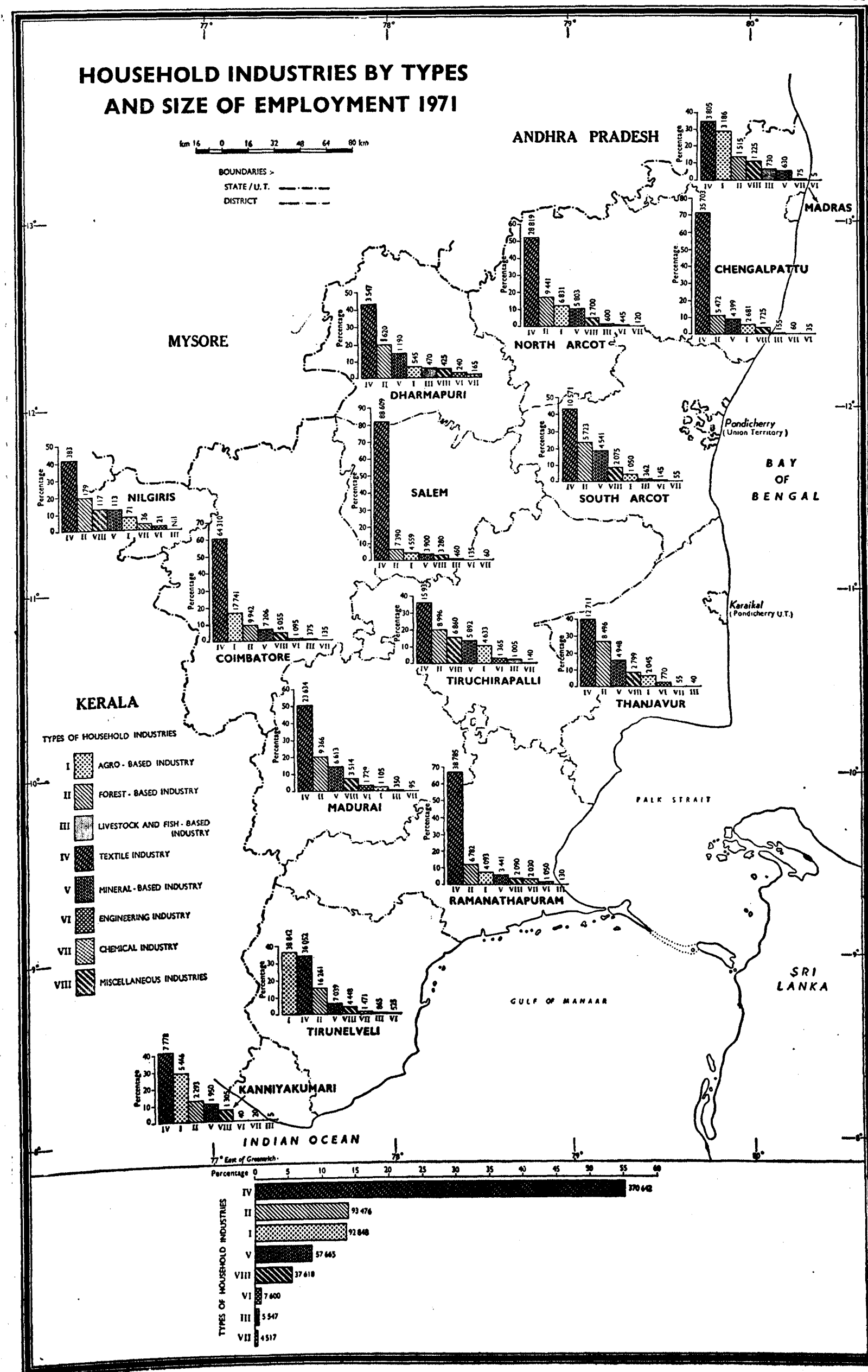
The percentage distribution of household industry workers in the eight categories discussed above is given in the following statement.

Percentage of household industry workers in

Unit	Agro-based industries	Forest-based industries	Livestock and fish-based industries	Textile industries	Mineral-based industries	Engineering industries	Chemical industries	Miscellaneous industries
1	2	3	4	5	6	7	8	9
TAMIL NADU	13.86	13.95	0.83	55.33	8.61	1.13	0.67	5.62
Madras	28.52	13.56	6.54	34.06	5.64	0.04	0.67	10.97
Chengalpattu	5.34	10.89	0.31	71.08	8.76	0.07	0.12	3.43
North Arcot	12.47	17.24	1.10	52.63	10.60	0.81	0.22	4.93
South Arcot	4.28	23.34	1.48	43.11	18.52	0.59	0.22	8.46
Dharmapuri	6.64	19.75	5.73	43.25	14.51	2.93	2.01	5.18
Salem	4.21	6.82	0.42	81.75	3.60	0.12	0.05	3.03
Coimbatore	16.76	9.39	0.35	60.75	6.81	1.03	0.13	4.78
Nilgiris	7.72	19.46	—	41.63	12.28	2.28	3.91	12.72
Madurai	2.38	20.18	0.75	50.93	14.25	3.73	0.21	7.57
Tiruchirappalli	10.34	20.07	2.24	35.55	13.14	3.05	0.31	15.30
Thanjavur	6.42	26.66	0.13	39.89	15.53	2.42	0.17	8.78
Ramanathapuram	7.01	11.61	0.22	66.41	5.89	1.80	3.48	3.58
Tirunelveli	36.82	15.41	0.82	34.17	6.67	0.50	1.39	4.22
Kanniyakumari	28.99	12.16	0.03	41.25	10.34	0.21	0.10	6.92

Horizontal bar diagrams, depicting the eight industrial categories in the order of strength of

household industry workers, are drawn for the state level below the main map.



MAP 81

FACTORIES BY TYPES AND SIZE OF EMPLOYMENT 1971

This map shows the strength of workers in eight broad types of factories at district level as recorded in 1971 Census. Vertical bar diagrams proportionate to the number of workers employed in each type of factory have been drawn, arranged in order of their size of employment from high to low for each district. The types of factories are shown by hatchings as per the legend of the map. Factory workers for purposes of this map includes workers in all the manufacturing, processing, repairing and servicing units, whether registered or otherwise and excludes those engaged in household industries. Data for this map have been compiled from the Appendix to the 1971 census Table B-IV Part, A.

At the state level, there are 1.30 million workers engaged in production, processing, repairing or servicing in non-household industrial units. A major portion among them (31.15 per cent) are engaged in textile industries. In six of the fourteen districts, textile industries absorb the highest proportion of factory workers. In Coimbatore district, the highest percentage of factory workers (54.15) is found in the category of 'textiles'. This district has innumerable textile mills, particularly in and around Coimbatore city and is popularly known as the Manchester of South India. The districts of Madurai (48.16 per cent) and Salem (47.88 per cent) have the second and third highest percentages of factory workers under 'textiles' in the state.

Agro-based industries absorbing 215,019 workers at the state level form the second important industrial category of Tamil Nadu. The three-agriculture-oriented districts of North Arcot, Thanjavur and South Arcot have 36.99, 29.84 and 26.43 per cent respectively of factory workers in agro-based industries. Though of secondary importance, such workers in Tirunelveli (26.51 per cent) and Kanniyakumari (30.77 per cent) form sizable ratios.

Miscellaneous industries which include printing, publishing and allied industries as also other unspecified manufacturing industries and repairs engage 14.29 per cent of State's industrial workers. Tiruchirapalli shows highest percentage (24.50) of workers in such miscellaneous industries in the state and is closely

followed by Madras which has 21.64 percent of workers in these industrial units.

Mineral based industries is the fourth major industrial category in the state with 131,990 workers forming 10.59 per cent of all factory workers. Chengalpattu with 20.49 per cent and South Arcot with 16.09 per cent are the two districts having high ratios in this type of industry.

Engineering industry is the most dominant category in Madras and Chengalpattu districts. While 29.75 per cent of factory workers are engaged in engineering units in Chengalpattu district, the corresponding percentage in Madras is 25.51. Tiruchirapalli (13.15 per cent) and Coimbatore (8.95 per cent) districts also depict sizable ratio of workers in this type of factories. The ratio is very low in rest of the districts.

Chemical industries form the chief factory type in Nilgiris district where it engages 45.41 per cent of its industrial workers. This type is the first of the eight types of industries in Ramanathapuram district also where nearly one third of the factory workers are engaged in such factories. The manufacturing of matches, crackers and other fire works is very popular in Ramanathapuram district. All the other districts have very low ratio of workers in this industrial category.

Forest-based industries are of some importance in Thanjavur, Kanniyakumari, South Arcot and Dharmapuri districts where their percentages vary between 10 and 14. Livestock and fish-based industries engage only 2.49 per cent of State's factory workers and is the least important one among the eight categories of industries under discussion. Such factories are prominent only in two districts, viz. North Arcot and Dharmapuri employing 13.69 and 11.03 per cent of workers in livestock and fish-based industries respectively. Percentage of workers engaged in this category is very low in the remaining districts.

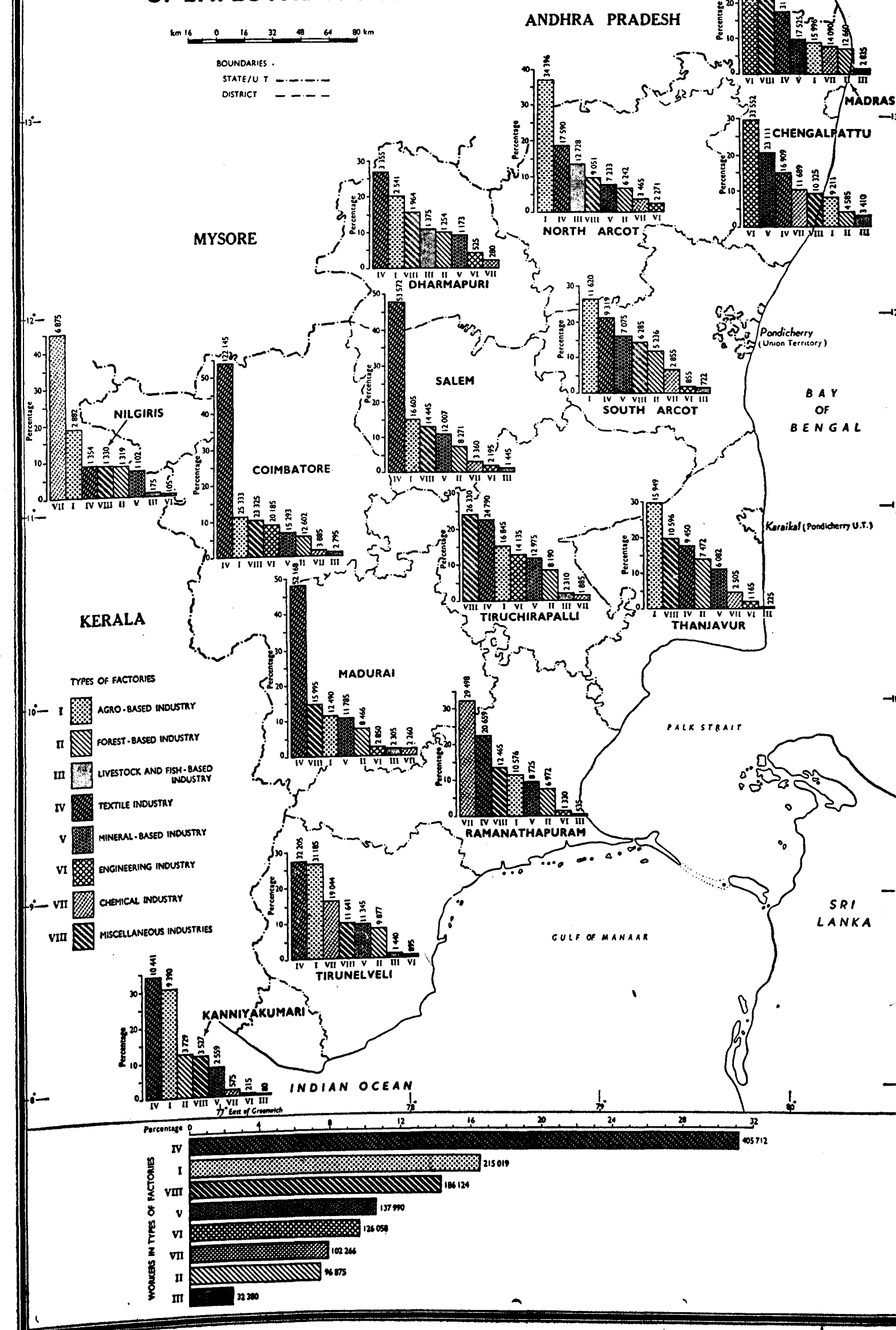
The percentage distribution of workers in the eight categories of industries is given below for state and districts.

Percentage of factory workers engaged in industries

Unit	Agro-based	Forest-based	Livestock and fish-based	Textiles	Mineral-based	Engineering	Chemical	Miscellaneous
1	2	3	4	5	6	7	8	9
TAMIL NADU	16.51	7.44	2.49	31.15	10.59	9.68	7.85	14.29
Madras	8.91	7.05	1.58	17.69	9.77	25.51	7.85	21.64
Chengalpattu	8.17	4.07	3.02	14.99	20.49	29.75	10.36	9.15
North Arcot	36.99	6.71	13.69	18.92	7.78	2.44	3.73	9.74
South Arcot	26.43	11.91	1.64	21.20	16.09	1.94	6.49	14.30
Dharmapuri	20.38	10.06	11.03	26.91	9.41	4.21	2.25	15.75
Salem	14.84	7.39	1.29	47.88	10.73	1.96	3.00	12.91
Coimbatore	11.23	5.59	1.24	54.15	6.78	8.95	1.72	10.34
Nilgiris	19.03	8.71	1.16	8.94	7.28	0.69	45.41	8.78
Madurai	11.53	7.81	2.13	48.16	10.88	2.63	2.09	14.77
Tiruchirapalli	15.68	7.62	2.15	23.07	12.08	13.15	1.75	24.50
Thanjavur	29.84	13.98	0.42	17.68	11.38	2.18	4.69	19.83
Ramanathapuram	11.65	7.68	0.59	22.76	9.61	1.47	32.50	13.74
Tirunelveli	26.51	8.40	1.22	27.38	9.64	0.76	16.19	9.90
Kanniyakumari	30.77	12.22	0.26	34.22	8.39	0.70	1.88	11.56

Eight horizontal bar diagrams showing the number of workers and percentage in the eight types of factories

FACTORIES BY TYPES AND SIZE OF EMPLOYMENT 1971



FACTORIES AND WORKSHOPS BY SIZE OF EMPLOYMENT 1971

This map shows the number of factories and workshops engaged in manufacturing, processing, servicing and repairs, by size-class of employment. Data for this map have been culled out from 1971 Census Table E-II Part B which has been compiled from the Establishment Schedule canvassed along with the House-listing operations of 1971 Census. The cartographic technique is the same as for Map 81.

A registered factory is one which is registered under the provisions of the Factories Act of 1948 and is engaged in manufacturing, processing etc. A workshop is a place where some kind of production, processing, servicing, repairing or making of goods for sale is done, but is not registered under the Factories Act. Household industries, engaged in production processes and employing unpaid family workers, are excluded for purposes of this map. For registration under the Factories Act, 1948, a factory should employ 20 persons and more if not using power and 10 persons and more if using power.

The total number of factories and workshops engaged in manufacturing in the State is 148,553 and this excludes units for which the number of persons employed is not specified. Of this figure, registered factories are only 8,136 and the rest are all unregistered workshops.

Units employing one to four persons form the major part of manufacturing units under the non-household industrial sector. They are not covered by the Factories Act according to the definition of a registered factory. At the state level such units form 82.33 per cent of the total number of units. Such small workshops form the highest percentage (90.31) of manufacturing units in Thanjavur district. In the districts of North Arcot, South Arcot and Dharmapuri, which form a contiguous area, very high ratios (87.90 per cent) of small-sized manufacturing units employing upto four persons are noticed. The least proportion of smaller units viz. 75.89 per cent is in Salem district followed by Madras (78.59).

Factories and workshops employing 5-19 workers number 21,098 amounting to 14.20 per cent of all factories and workshops in the state. Units employing 5-19 persons form the highest proportion (20.30 per cent) in Salem district followed by Madras (17.69 per cent). Thanjavur district has registered the lowest ratio of 8.48 per cent of such units while the Dharmapuri, South Arcot and North Arcot districts have between 9 to 10 per cent of their units in this employment class.

Manufacturing units employing 20-49 workers form a meagre ratio (2.35 per cent) at the state level. Nilgiris (4.00) and Salem (3.14) districts have recorded higher percentages in the state. Thanjavur and South Arcot districts have lower percentages of less than one. All the units with 20-49 workers are obviously factories registered under the Factories Act by reason of the scale of employment irrespective of the usage of power.

There are 907 factories employing 50-99 workers in the state, of which 164 are in Coimbatore and 114 in Ramanathapuram districts. Only one such big factory is in Dharmapuri district. Such big-sized units form only between one and three per cent in the district of Nilgiris (2.34), Chengalpattu (1.20) and Ramanathapuram (1.03) districts.

There are 756 factories with over 100 employees in the state, of which 122 employ over 500 labourers while 99 employ 300-499 labourers. Such big-sized factories employing over 100 persons are found in Coimbatore (159) Chengalpattu (102) and Madras (96) districts.

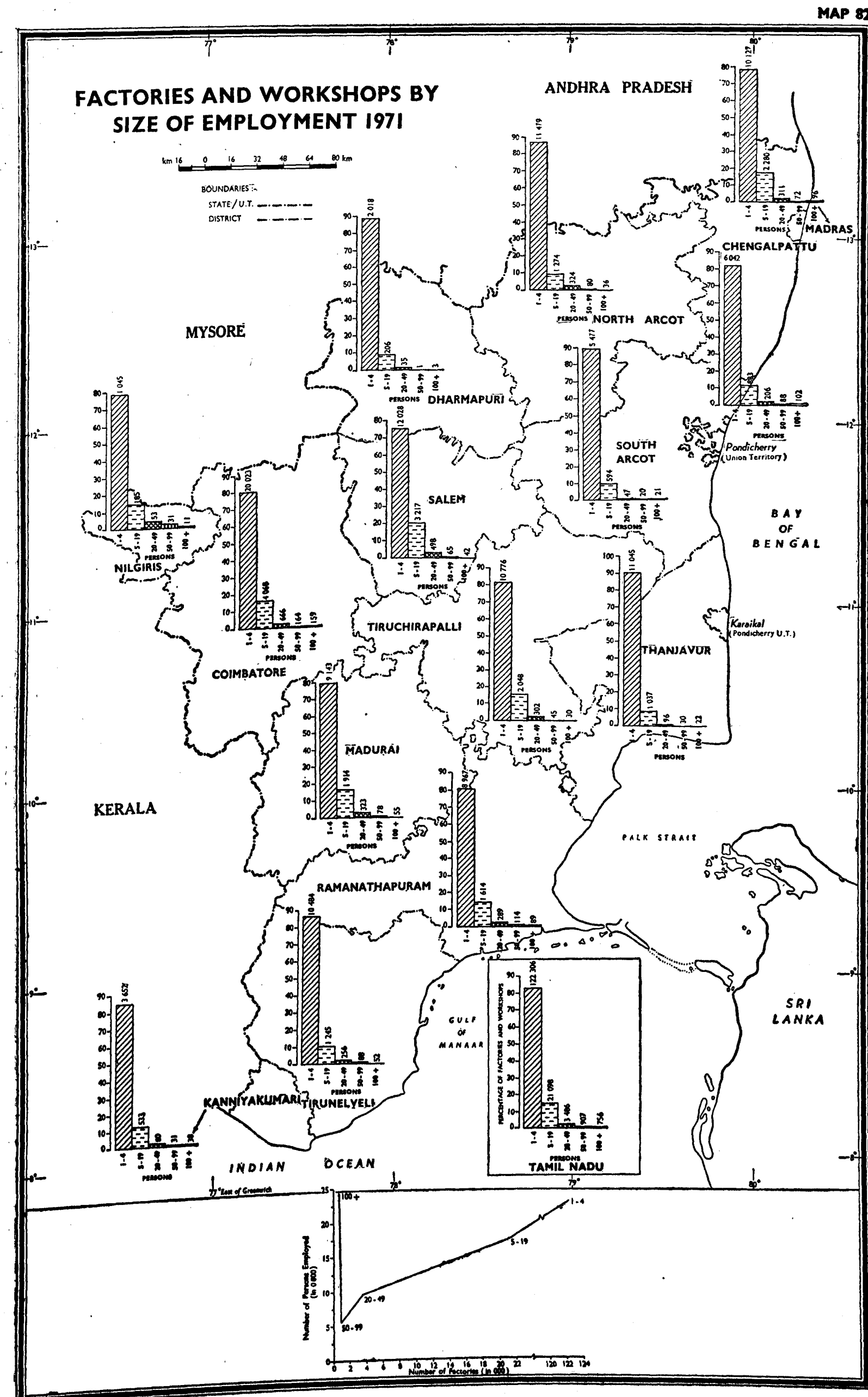
Out of the total of 148,553 factories and workshops in the state, Coimbatore has the highest number of units (25,080) followed by Salem (15,850). The lowest number of factories and workshops is in Nilgiris (1,325). Madras has 12,886 factories.

The total number of factories and workshops (other than household industries) and their percentage distribution in the five size-classes of employment are given below for state and districts.

Unit	Factories and workshops	Percentage of factories and workshops in employment sizes				
		1-4	5-19	20-49	50-99	100
1	2	3	4	5	6	7
TAMIL NADU	148,553	82.33	14.20	2.35	0.61	0.51
Madras	12,886	78.59	17.69	2.41	0.56	0.75
Chengalpattu	7,321	82.53	12.06	2.82	1.20	1.39
North Arcot	13,193	87.01	9.66	2.45	0.61	0.27
South Arcot	6,159	88.93	9.64	0.76	0.33	0.34
Dharmapuri	2,263	89.17	9.10	1.55	0.05	0.13
Salem	15,850	75.89	20.30	3.14	0.41	0.26
Coimbatore	25,080	79.84	16.22	2.66	0.65	0.63
Nilgiris	1,325	78.87	13.96	4.00	2.34	0.83
Madurai	11,513	79.41	16.62	2.81	0.68	0.48
Tiruchirapalli	13,201	81.63	15.51	2.29	0.34	0.23
Thanjavur	12,230	90.31	8.48	0.78	0.25	0.18
Ramanathapuram	11,073	80.98	14.58	2.61	1.03	0.80
Tirunelveli	12,125	86.46	10.27	2.11	0.73	0.43
Kanniyakumari	4,334	84.26	12.30	1.85	0.71	0.88

A graph showing the number of factories with number of persons employed in them under the

different size classes is presented below the main map.



FOOD PROCESSING INDUSTRIES 1971

This map shows the distribution of food processing industries in the state. The location of the different types of factories (registered under the Factories Act), engaged in manufacture of food articles and the size of their work force are indicated by different hatchings.

There are 1,667 registered food processing factories in the state during 1970-71 employing about 55,000 workers. Nearly half of these factories (806) are rice mills. There are also 35 flour mills. Thanjavur district noted for its rice production has the largest number of rice mills (194) in the state and these employ about 2,400 workers. Coimbatore district has 178 rice and flour mills employing nearly 3,000 workers while Madurai district has 130 mills with about 1,700 employees. The districts of Salem, Tiruchirapalli and Tirunelveli have also over 50 mills each. Very heavy concentration of rice flour mills are found in the centres of Madurai (57) and Salem (49) as also Mayuram taluk (39) of Thanjavur district. There are three big flour mills employing over 100 persons each in Madras.

There are only 27 dhal mills in the state and ten of these are in Tuticorin in Tirunelveli district. Eight more are in Tiruchirapalli district (five in Tiruchirapalli and three in Karur).

Edible oil (other than hydrogenated) is produced in 209 factories in the state. Comparatively larger number of factories in this category are noticed in the districts of Coimbatore (50), Salem (45), South Arcot (26) and Madurai (23). Except one factory which has 100 employees, all these mills employ a small number of persons.

Six of the ten factories producing bakery products are in and around Madras City. The biggest unit with about 700 employees is the Britannia Biscuit Co., in Padi near Madras. The next important unit is Modern Bakeries in Madras city with 41 employees.

They are 21 sugar factories, one palm-gur unit and eight sugar confectionary units in the state. The Parry and Co. Ltd. at Nellikuppam is the largest sugar factory with about 2,500 employees; there are five other sugar factories employing 500 to 1,000 persons each, and the rest are smaller units. There is only one fruit processing factory in the state and that is in Vellore in North Arcot District.

Of the five units manufacturing hydrogenated oil, the Tata Oil Mills at Madras with about 350 workers and the Hindustan Lever Ltd. in Tiruchirapalli district with over 150 workers are the two important ones.

There are 12 factories engaged in manufacturing dairy products. The Madhavaram milk project is the only big unit with over 100 workers. There are four dairy units in Coimbatore district and two in Nilgiris districts.

Twenty-six of the state's 35 cashew units are in Kanniyakumari district and most of the cashew-processing factories in this district are big in size:—two have 1,000 workers each, two have 500 to 1,000 workers and eight between 400 and 500 workers. The cashew factories in other districts are comparatively very small—there are six factories in South Arcot one in Thanjavur and two in Tirunelveli district.

Tea factories are all concentrated in the hilly Nilgiris district (93 factories). There are 28 factories in Coimbatore district. Three factories exist in Madurai district, two in Tirunelveli and one in Kanniyakumari district. There is a good concentration of tea factories in Valparai area of Pollachi Taluk in Coimbatore district and Kotagiri and Coonoor in Coonoor taluk of Nilgiris district. Ten factories have over 100 workers each and the biggest from the point of work-force is the Brook Bond factory at Coimbatore with about 500 workers. Tea factories of the state employ nearly 6,200 workers. Coffee-curing factories are fewer—eight in Coimbatore, five in Madurai, four in Salem and one in Tirunelveli district. Only four of these coffee-curing works are big with over 100 employees, while nine have less than 20 workers each.

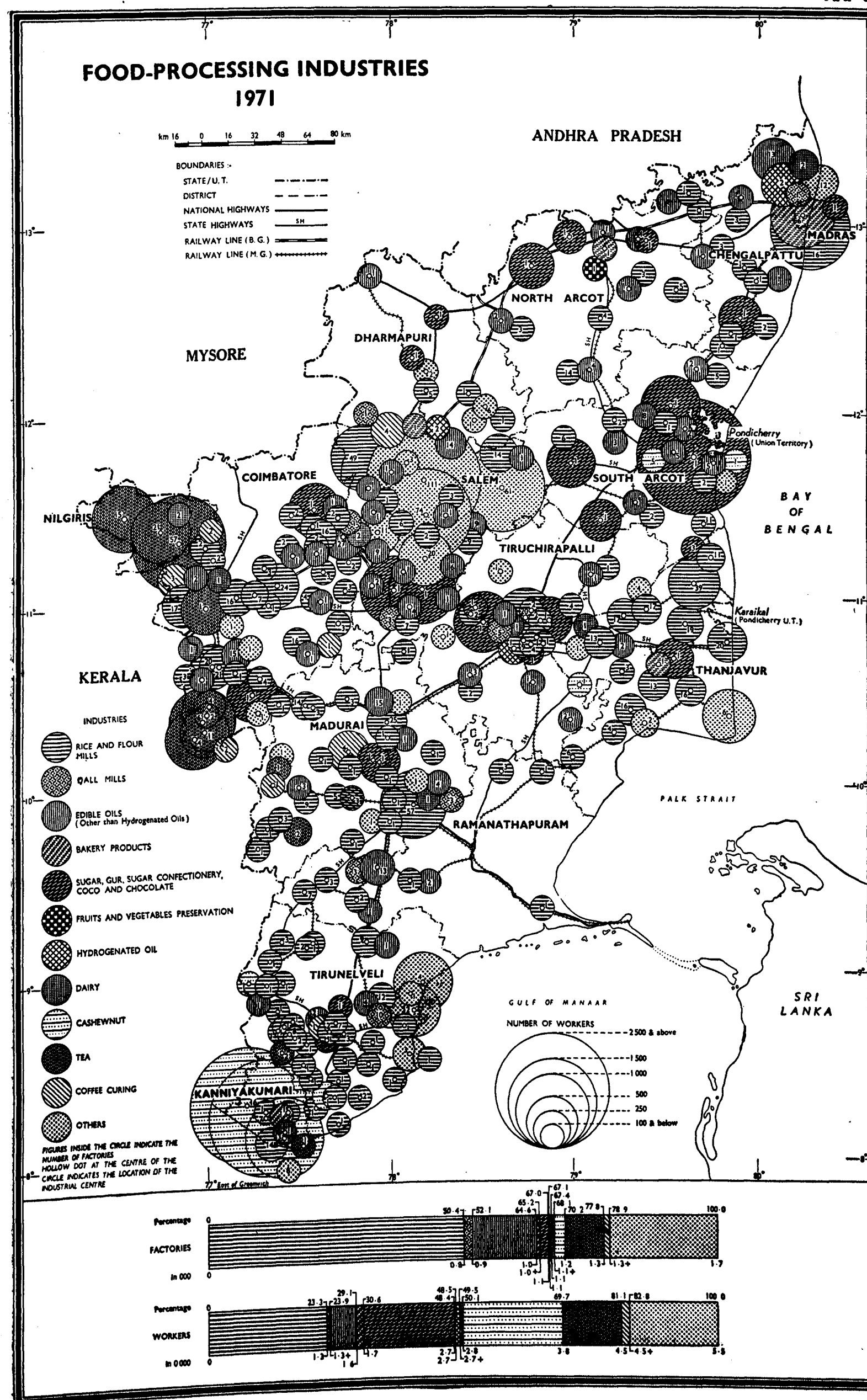
There are 352 factories under 'others' out of which 280 are in Salem district. Almost all these factories in Salem district are engaged in producing sago from tapioca. Thirty-four salt manufacturing units which are included under the category 'others' are spread over Thanjavur (8), Tirunelveli (18) and Kanniyakumari (8) districts.

Data on the number of factories in the state and districts are given below for certain important categories of food processing industries.

Unit	Number of registered factories producing						
	Rice and flour	Dhal	Edible oil	Sugar, Gur, confectionary	Cashew nut	Tea and Coffee	Others
1	2	3	4	5	6	7	8
TAMIL NADU	841	27	209	30	35	145	352
Madras	14	—	12	—	—	—	7
Chengalpattu	15	1	5	2	—	—	5
North Arcot	30	—	9	3	—	—	—
South Arcot	29	—	26	4	6	—	1
Dharmapuri	7	—	1	2	—	—	9
Salem	84	1	45	1	—	4	280
Coimbatore	178	1	50	2	—	36	3
Nilgiris	—	—	—	—	—	93	—
Madurai	130	3	23	5	—	8	4
Tiruchirapalli	55	8	12	5	—	—	2
Thanjavur	194	—	2	4	1	—	13
Ramanathapuram	18	3	16	—	—	—	—
Tirunelveli	71	10	8	2	2	3	20
Kanniyakumari	16	—	—	—	26	1	8

The number of factories in each of the 12 categories as also the workers engaged (in the same order as in the legend) are depicted in two bar diagrams below the

main map with cumulative figures and percentages for all the twelve categories.



BEVERAGES AND TOBACCO INDUSTRIES 1971

This map shows the locations of factories engaged in the production of beverages and tobacco products in the State. The factories engaged in such production have been classified under five broad heads as detailed in the map legend. While the number of workers engaged in each type is indicated in the centres of location in proportionate circles, the number of factories is shown inside the circles. Data for this map relate to registered factories alone (under the Factories Act, 1948) and have been compiled from the Labour Commissioner's Office of the Tamil Nadu Government.

There are 29 factories in the State producing soft drinks and carbonised water employing 945 workers. Eight of these factories employing about 400 persons are in Madras. The other important centres in the state which have two or more beverage-producing factories are Madurai (4), Tiruchirapalli (3), Karaikudi (3), Salem (2) and Kumbakonam (2).

Snuff and other tobacco products are manufactured in 36 factories in the State which employ in all 1,536 persons. Madras has seven of these factories with 184 workers. The largest number of employees in such factories is in Kumbakonam where six factories employ 317 workers. The other important centres of concentration of similar factories are i) Dindigul in Madurai district which has six factories with 242 workers; and ii) Pudukottai in Tiruchirapalli district with 5 factories and 300 workers. A factory in Vedaranyam in Thanjavur district has a large number of employees, viz. 174. There are only two factories which produce cigar in the State. One of these is in Dindigul employing 54 persons. The other one employs 37 workers and is in Dhalavoipuram in the western part of Ramanathapuram district.

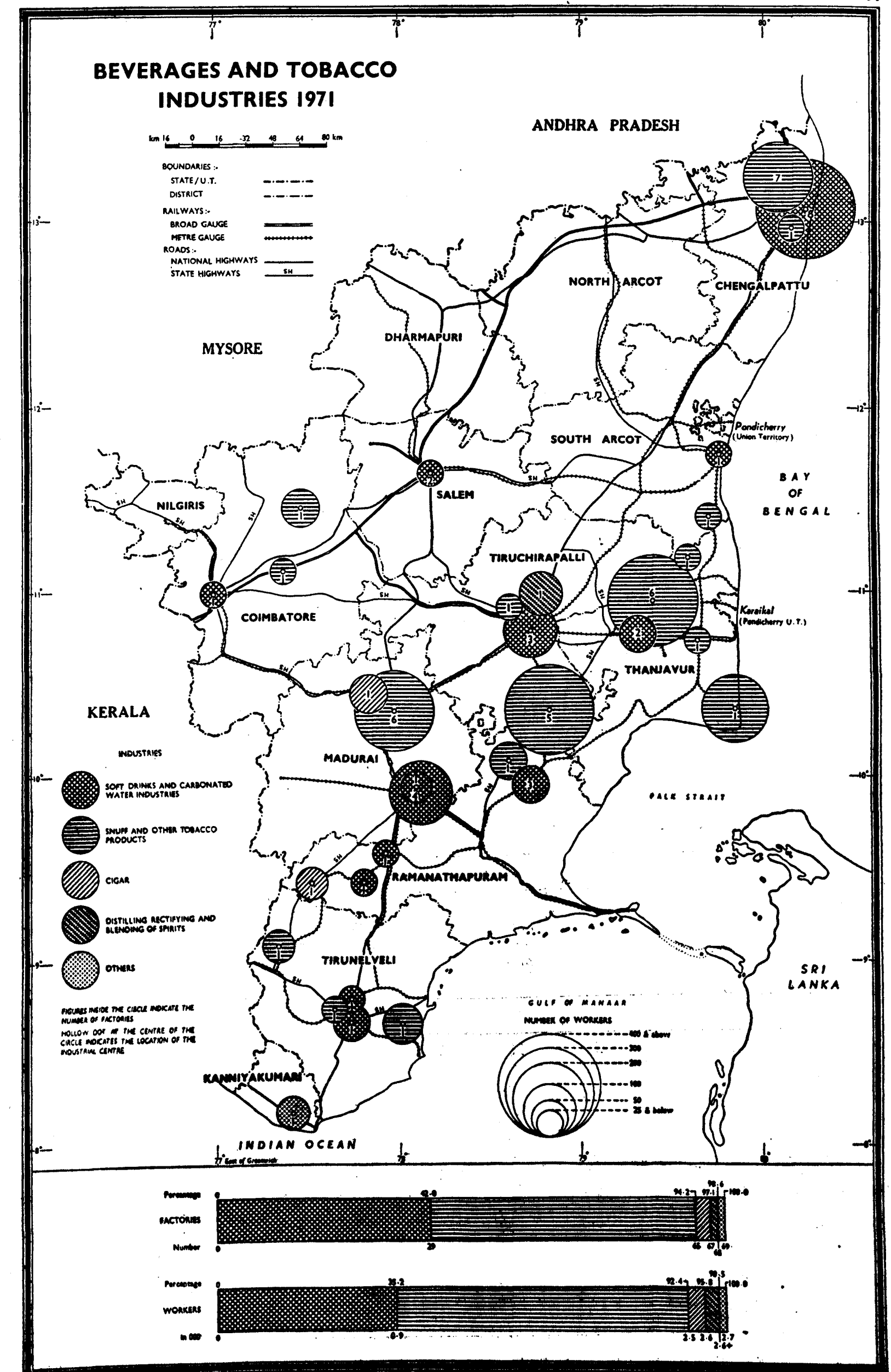
There is a factory engaged in distilling, rectifying and blending of spirits located at Tiruchirapalli. This factory employs 72 persons. A factory employing 40 persons and located in Nagercoil falls under the category 'Other tobacco products'.

No factory of the categories under discussion is found in the districts of North Arcot, Dharmapuri, Nilgiris and Kanniyakumari.

The district-wise distribution of factories and workers in two of the important categories out of the five categories represented in the map are given below:

Unit	Soft drinks and carbonated water industries		Snuff and other tobacco products	
	No. of factories	No. of workers	No. of factories	No. of workers
TAMIL NADU	29	945	36	1,536
Madras ..	8	375	7	184
Chengalpattu ..	—	—	1	11
North Arcot ..	—	—	—	—
South Arcot ..	1	14	1	22
Dharmapuri ..	—	—	—	—
Salem ..	2	26	—	—
Coimbatore ..	1	32	2	68
Nilgiris ..	—	—	—	—
Madurai ..	5	187	6	242
Tiruchirapalli ..	3	109	6	313
Thanjavur ..	2	45	9	529
Ramanathapuram ..	5	90	1	49
Tirunelveli ..	2	67	3	118
Kanniyakumari ..	—	—	—	—

The number of factories and workers in each of the five categories as in the map along with their percentages are shown in the two bar diagrams. The cumulative figures and percentages for the categories of factories, in the order as given in the map legend, are also indicated in these diagrams.



MAP 85

TEXTILE INDUSTRIES 1971

The distribution of the textile industries in the different regions of the state is presented in this map under seven broad categories. The number of factories, their location and the size of their work force are represented in the map. The registered factories as compiled for the year 1970-71 by the Labour and Factories Department of the State Government have been utilised for drawing this map.

Factories engaged in the manufacture of textile goods have the largest number of workers among factory labour. Nearly 120,000 workers are working in the textile mills of the state. It may be seen from the map that there is a high concentration of these industries in the Coimbatore-Salem region in the west and in the Madurai-Ramanathapuram-Tirunelveli region in the South. The categories of factories represented in the map by differential hatchings are (i) cotton mills, (ii) cotton ginning and baling mills, (iii) silk mills, (iv) wool baling and pressing factories, (v) knitting mills, (vi) Lace mills and carpet weaving, (vii) Others.

Cotton mills, i.e., factories engaged in spinning, weaving and finishing of cotton textiles, number 322 in Tamil Nadu and employ about 110,000 persons in the state. Binny and Co., at Madras having over 12,000 labourers is the premier cotton mills of the state. Madurai Mills Co. Ltd. in Madurai with about 8,000 workers and its unit in Papanasam in Tirunelveli district with over 5,000 employees are also bigger units.

There are 13 other mills which have a work force in the range of 1,000-5,000 each and many of these are located in Coimbatore district. Coimbatore (72 mills) Erode (52) and Tiruppur (27) are the taluks with very large number of cotton mills. In Coimbatore district as a whole, there are 185 cotton mills. The district of Madurai (46) Ramanathapuram (27) Tirunelveli (19) and Salem (13) have over ten cotton mills each.

There are 238 cotton ginning and baling mills employing 11,429 persons as at 1971 in the state. Of these, 125 are in Coimbatore district, 51 in Tirunelveli and 34 in Ramanathapuram district. The two largest ginning factories employing between 300-350 persons are in

Tiruppur in Coimbatore district. There are two small wool baling and pressing mills in the state and these are in North Arcot district.

Factories engaged in producing silk goods number 207 during 1971 and employed nearly 3,500 persons. There is a concentration of 160 mills in Salem district employing 2,500 workers. The rest of the state's silk mills are located in North Arcot district accounting for 40 mills with nearly 1,000 workers. Most of the silk mills are small units employing 30 workers and below. The two big silk mills are in Arni and Komarapalayam employing 134 and 113 persons respectively.

Knitting mills are all concentrated in Tiruppur in Coimbatore district which is a renowned centre for production of hosiery goods. Of the state's 127 knitting mills, 119 employing 1,666 persons lie in Tiruppur. The remaining knitting mills are near Coimbatore (2) and in Pammal in Chengalpattu district (1), Salem city (1), Madurai city (1) and Karur (3) in Tiruchirapalli district,

There is only one mill engaged in producing lace in Kancheepuram city of Chengalpattu district. The carpet weaving factory employing 52 persons is located in Wallajahpet town of North Arcot district.

Factories under 'gins and presses' (12) and a mill producing artificial leather and oil cloth are in Madras. Factories falling under 'Other textile manufacture not elsewhere classified' (24), engaged in production of clothing umbrella, etc. for wearing apparel (25) have all been indicated in the map under 'Others'. There are 62 such mills employing nearly 5,000 persons. Greater concentrations of these factories are found in Madras (19), Coimbatore (12), Madurai (8) and Tiruchirapalli (7) districts. South India Viscose Ltd. with about 850 workers and the Premier Mills Ltd. with about 800 workers (both in Coimbatore district), the Central Jail Workshops at Cuddalore and Salem with 463 and 349 workers respectively are the bigger units under the category 'Others'.

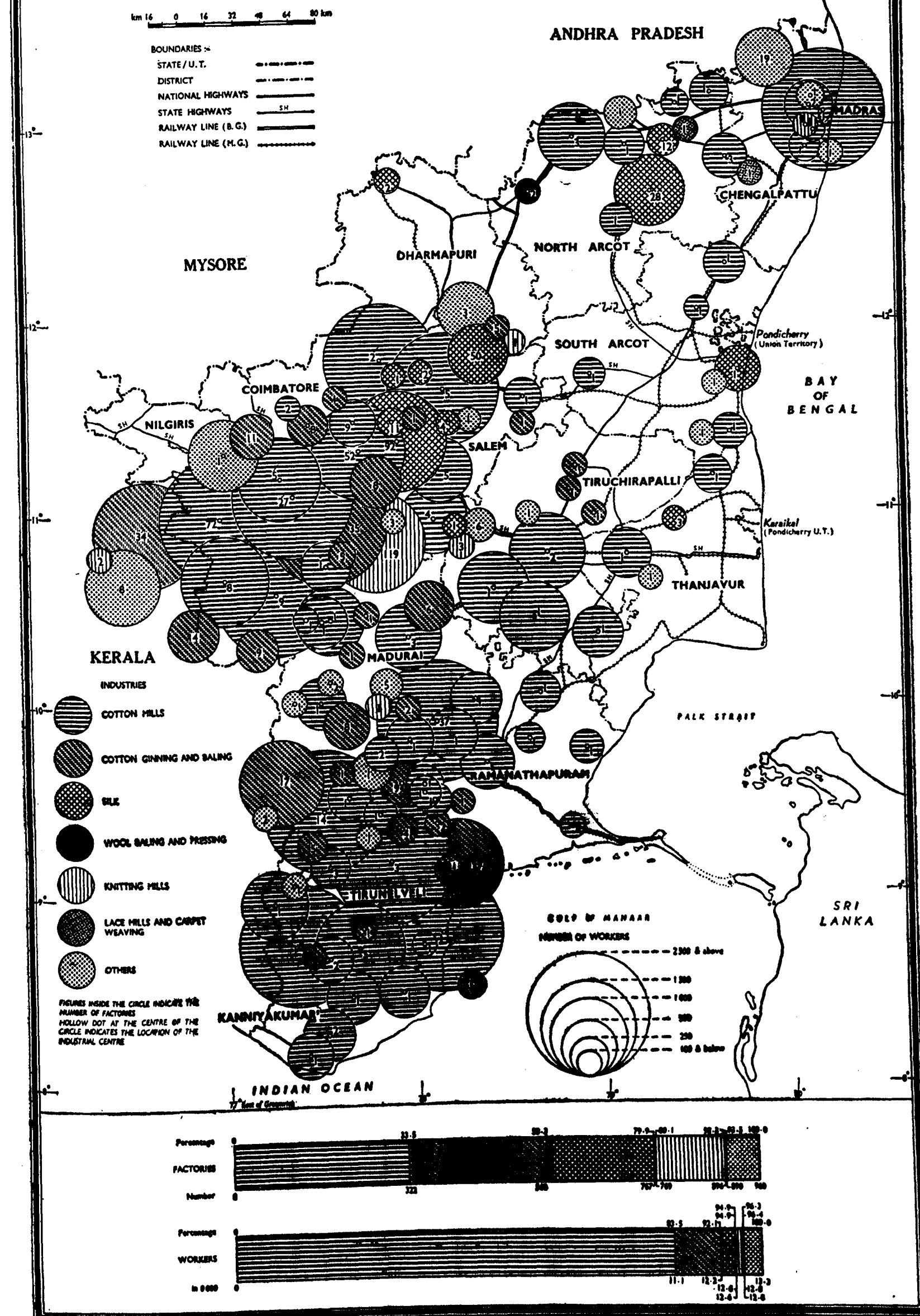
Data on the number of factories in the different categories for state and districts are given below:

Unit	Number of registered factories						
	Cotton Mills	Cotton ginning and baling	Silk	Wool Baling and pressing	Knitting Mills	Lace Mills and Carpet Weaving	Others
1	2	3	4	5	6	7	8
TAMIL NADU	322	238	207	2	127	2	62
Madras	1	—	—	—	—	—	19
Chengalpattu	7	—	—	—	1	1	3
North Arcot	6	—	40	2	—	1	1
South Arcot	4	—	1	—	—	—	2
Dharmapuri	—	—	2	—	—	—	—
Salem	13	7	160	—	1	—	4
Coimbatore	185	125	—	—	121	—	12
Nilgiris	—	—	—	—	—	—	—
Madurai	46	18	—	—	1	—	8
Tiruchirapalli	9	3	1	—	3	—	7
Thanjavur	2	—	3	—	—	—	1
Ramanathapuram	27	34	—	—	—	—	4
Tirunelveli	19	51	—	—	—	—	1
Kanniyakumari	3	—	—	—	—	—	—

The two bar diagrams below the map show the number of textile industries in the state and their work-force in the seven categories (in the same order as in the main map) along with their percentages. The

actual figures as well as the percentages for the different categories are indicated in a cumulative manner. It may be observed that over 80 per cent of workers in textile industries are engaged in cotton mills.

TEXTILE INDUSTRIES 1971



MAP 86

LEATHER AND WOOD-BASED INDUSTRIES 1971

This map shows the leather and wood-based industries located in different places of the state. The size of labour force has been shown, by proportionate circles and the type of industries by different hatchings. The number of registered factories of each type is also indicated. Three types of leather industries and six types of wood-based industries are shown.

Under leather industries, the most important type is "tanneries and leather finishing" unit. Of the total of 252 factories (engaging about 10,500 workers) falling under "leather industries", 230 factories with about 9,000 workers are grouped under the above sub-group. As many as 167 tanneries and leather finishing units are found in North Arcot district. The places of concentration in this district are Vaniyambadi (56 units), Ambur (32), Pernambut (26), and Ranipet (22). The other places where such units number ten and more are Chromepet in Pallavapuram Municipal limits of Chengalpattu district with 21 units (with nearly 1,800 workers) and Dindigul in Madurai district with 10 units.

Fifteen factories in the state with about 500 workers manufacture leather products other than footwears and other wearing apparels. Fourteen of these are located in the suburbs of Madras and fall in Chengalpattu district. Seven factories in the state produce boots and shoes (except rubber footwears), of which four are in Madras and two are in Ambattur, a suburb of Madras. The seventh unit is the factory at Central Jail, Thorappadi in North Arcot district, which is biggest with a little over 500 workers.

Under wood-based industries, there are 64 saw mills employing 785 workers in the state as a whole. Twenty of these are in Coimbatore district. The other two districts with over 10 mills each are Tirunelveli (13) and Kanniyakumari (12). Places of heavy concentration of saw mills are Pollachi (18 mills) in Coimbatore district and Nagercoil (12 mills) in Kanniyakumari district. Except the Government saw mill unit in Nagercoil which has about 50 employees, the rest are mostly small. There is only one plywood mill in the state, with 16 employees and it is located in Tenkasi in Tirunelveli district.

Furniture and fixtures are made in 30 units in the state as a whole, the total workers in them being about 1,850. Concentration of these factories, is in Madras and Tiruchirapalli cities — eight with 863 workers in Madras city, and four with 411 workers in Tiruchirapalli. Two units are in Madurai city with 75 workers. The

rest of them are spread over in different parts of the state. The bigger units are the Central Jail workshops at Madras (469 workers) and Tiruchirapalli (350 workers). There is one more unit in Madras which has 189 workers. The rest of the factories of this category are all smaller in size.

Twenty factories in the state are categorised in the making of 'wood products and others'. These are: two units engaged in joinery and general wood works, three making boxes and packing cases and 15 making other miscellaneous wood products like match sticks, ship boards, etc. Four units of this category are in Chengalpattu district and four more are in Coimbatore district while three are in Kanniyakumari district. The rest of the units are in other districts.

Fifty-six units with about 3,500 workers are engaged in making paper and pulp products. The biggest paper mill is the Seshasayee Paper and Boards Ltd. at Pallipalayam in Salem district with over 1,400 workers. Three other units have between 100 and 200 workers. The rest are all smaller in size. Among the districts, Madurai has the largest number of factories under this category (19) with ten in Madurai city and four in Dindigul. Thirteen factories of this category are in Madras city (6) and its suburbs like Ambattur (3), Pallavapuram (2), Velacheri (1) and Nandambakkam (1).

Printing, publishing and allied industries account for 459 units in the state as a whole employing nearly 17,000 workers. Of these, 165 with about 10,000 workers are concentrated in Madras city. The next highest concentration is in Sivakasi in Ramanathapuram district (65 units with about 2,200 workers). Besides these some factories of this type are also found in the cities of Coimbatore (28), Tiruchirapalli (22), Madurai (20), Vellore (16), Salem (12), Kumbakonam (11) and Tirunelveli (11). In view of the large demand for printing work, installation and maintenance of machines and availability of skilled workers necessary for such units, they are found in large numbers in cities and other bigger towns. The biggest unit of this category is the Govt. Press at Madras (with over 2,400 workers). There are 25 units with workers ranging from 100 to 500 and one unit with a little over 500 workers. The rest of the units are comparatively smaller in size.

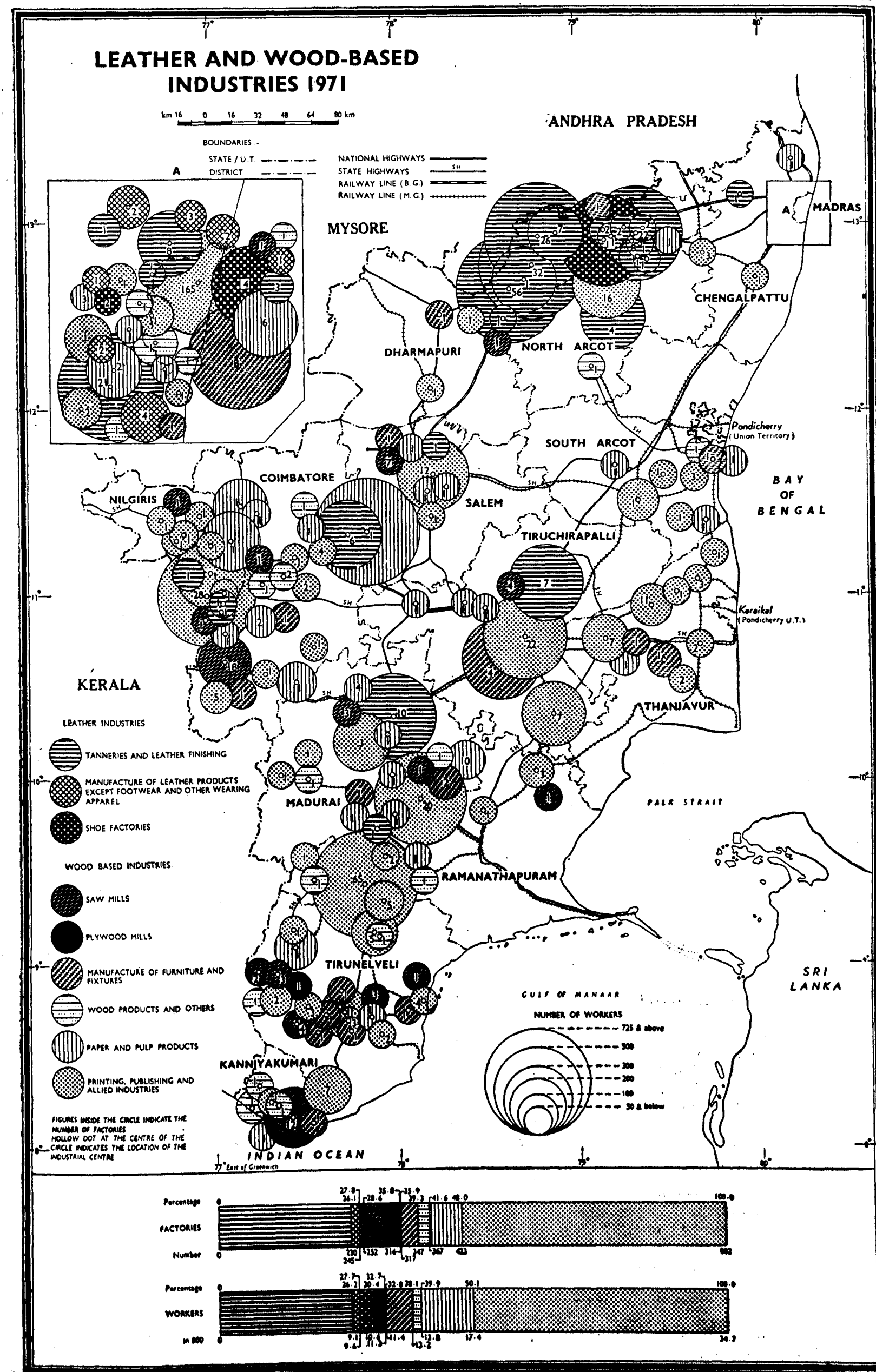
Data on the number of factories in some of the important categories discussed above (i.e., categories in which 25 or more number of factories exist at the state level) are given below for the state and the districts.

Number of Registered Factories

Unit	Tanneries and leather finishing	Saw mills	Furniture and fixtures	Paper and pulp products	Printing publishing and allied industries
1	2	3	4	5	6
TAMIL NADU	230	64	30	56	459
Madras	3	1	8	6	165
Chengalpattu	32	—	1	8	10
North Arcot	167	1	1	1	17
South Arcot	—	—	1	3	6
Dharmapuri	—	—	1	—	1
Salem	1	7	1	4	13
Coimbatore	9	20	2	7	45
Nilgiris	—	1	—	—	4
Madurai	11	4	3	19	26
Tiruchirapalli	7	4	4	3	29
Thanjavur	—	—	2	1	27
Ramanathapuram	—	1	—	1	77
Tirunelveli	—	13	5	2	31
Kanniyakumari	—	12	1	1	8

The two horizontal bar diagrams below the map show (i) the number of factories in the nine categories indicated in the main map and (ii) the number of workers

in the factories of these nine categories. The actual figures as well as the percentages are shown in a cumulative manner in these bar diagrams.



METAL - BASED INDUSTRIES 1971

This map shows the locations of metal-based industries in the state, their number and the size of their workforce. The metal-based industries have been grouped under five broad heads.

- (1) Basic metal industries - ferrous
- (2) Basic metal industries - non-ferrous
- (3) Manufacture of metal containers and steel trunks
- (4) Manufacture of other metal products
- (5) Metal furniture and fixtures

The data relate to factories registered under the Factories Act and have been gathered from the Labour and Factories Department of the Tamil Nadu Government.

The largest concentration of basic metal industries - (Ferrous) is observed in Madras and its surrounding suburbs. Forty six of the 110 factories of this category in the state are located in the Madras region. Nearly 73 per cent of the total of 9,927 workers in such industries in the state are engaged in the above 46 factories. The Ennore foundries near Madras, employs 1,010 workers - the largest number of any factory in this category. There are 17 factories within Madras city, eight are in Tiruvottiur, seven in Ambattur and the rest in other smaller towns. The other places where there is a concentration of these factories are Coimbatore city and its suburbs (25 factories employing 532 persons) and Nagapattinam in Thanjavur district (2 factories employing 550 persons). Madurai, Tiruchirapalli and Tirunelveli cities have also five or more factories while the rest of the factories of this category are distributed in other smaller towns.

Of the 53 basic metal industries of non-ferrous type in the state, 24 are in Madras and its surrounding towns. Coimbatore city and its suburbs has 6 factories of this type while the nearby Tiruppur in the same dis-

trict of Coimbatore has three more factories. Salem district has six and Tirunelveli has four factories under this category. Out of the rest of the ten factories of this type in the state, nine are in the southern districts while one is in North Arcot district.

There are 84 factories in Tamil Nadu which manufacture metal containers and steel trunks, employing in all 3,467 persons. Over one half of these factories employing about 80 per cent of the total workers in this category are in Madras city. The metal box company in Madras is the biggest unit under this type and employs 985 persons. Next to Madras city region, Madurai city with 11 factories and Dindigul city with nine factories are also important production centres for metal containers and steel trunks. A few more such factories are located in the southern districts.

Factories engaged in the manufacture of other metal products in the state number 180 and employ 6,698 persons. Of these 180 factories, 35 manufacture bolts, nuts, nails, springs, chains, etc., eleven produce cutlery, locks etc., 18 are engaged in metal galvanising, tinning, plating, lacquering, japanning, polishing etc., while 12 are engaged in type-founding, three in welding and 101 in other metal products. Madras city and its environs has bulk of 106 such factories above. Tiruchirapalli with 25 factories and Coimbatore with 10 factories of the above category are important where the number of factories are conspicuous.

There are only 16 units in the state employing 602 persons in the manufacture of metal furniture and fixtures. Three each of these factories are in Madras and North Arcot districts, while four are in Coimbatore District.

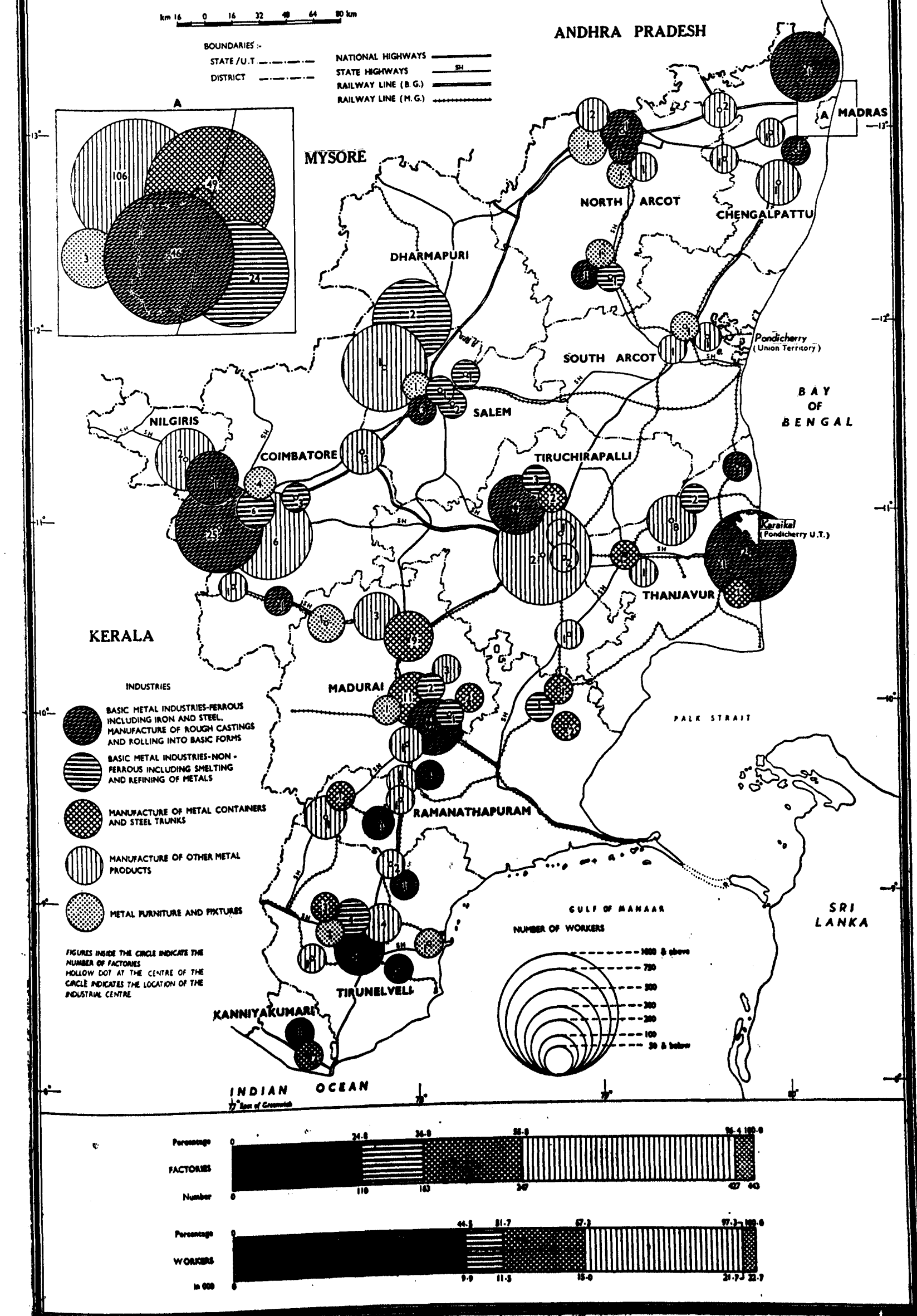
Data on the number of factories in the five categories discussed above are given below for state and districts :

Unit	Number of Factories manufacturing				
	Basic Metal Industries		Metal containers and steel trunks	Other metal products	Metal furniture and fixtures
	Ferrous	Non-Ferrous			
1	2	3	4	5	6
TAMIL NADU	110	53	84	180	16
Madras ..	17	15	43	65	3
Chengalpattu ..	31	9	6	43	—
North Arcot ..	3	1	—	5	3
South Arcot ..	—	—	—	2	1
Dharmapuri ..	—	—	—	—	—
Salem ..	3	6	—	1	1
Coimbatore ..	27	9	—	10	4
Nilgiris ..	—	—	—	2	—
Madurai ..	6	3	22	7	2
Tiruchirapalli ..	6	3	2	25	—
Thanjavur ..	4	2	2	9	—
Ramanathapuram ..	5	1	4	3	—
Tirunelveli ..	7	4	3	7	2
Kanniyakumari ..	1	—	2	—	—

The number of factories in the above five categories as also their workers are represented in two horizontal bar diagrams below the main map in the order depicted

in the map legend. The number and percentage for each category are indicated in a cumulative manner, in the same order, in these diagrams.

METAL-BASED INDUSTRIES 1971



MAP 88

NON - METALLIC MINERAL - BASED INDUSTRIES 1971

This map shows the non-metallic mineral-based industries located in different places of the state. All the registered factories falling under the above group have been divided into five broad categories - (1) cement (2) bricks, tiles and others (3) Pottery, china and earthenware (4) glass and glass-ware products (excepting optical lenses) (5) others (including asbestos products), stone dressing and crushing, etc., for depiction on the map. The number of registered factories of each category and the size of labour force are also indicated in the map.

There are eight cement factories employing about 4,000 workers in the state as at 1971. The biggest with over 1,000 workers is the one at Madukkarai (Associated cement works) in Coimbatore district. The Dalmia cement factory at Dalmiapuram in Tiruchirapalli district and the India cements factory at Sankarnagar in Tirunelveli district are the other two big factories with 750-1,000 workers each in the state. The other five factories are comparatively smaller units.

The state has 41 factories under the category of "bricks, tiles and others". Ten of these factories with over 1,200 workers are in Chengalpattu district. While Madras city has four such factories, four more are in the suburbs of Madras though lying in Chengalpattu district. While eight brick/tile units are in Tirunelveli district, there are five in the adjoining Ramanathapuram district and four in Madurai district. The districts of North Arcot and South Arcot as also Nilgiris do not have even a single factory of this important category. The biggest unit employing nearly 340 people is near Madras. The second biggest with about 220 workers is in Rajapalayam in Ramanathapuram District. There are three more big factories with workers in the range of 100-200. The rest of the factories have less than 100 workers.

Out of the state's eight factories engaged in manufacture of pottery, china and earthenware, employing about 900 persons in all, four are in South Arcot district. The Tansi Ceramics factory at Vriddhachalam with about 300 employees and the Neyveli Ceramics and Refractories Ltd. at Vadalur with nearly 400 workers - both in South Arcot district - are the biggest units. A ceramic unit in Coimbatore district has 64 employees. The remaining five units have less than 50 employees each.

Glass and other glass products are made by eight factories in the state. The premier factory in this category is the South India glass and enamel works in Salem which employs around 250 persons. There are three glass factories in and around Madras each having workers above 100. Two glass units in the Guindy industrial estate are Government units.

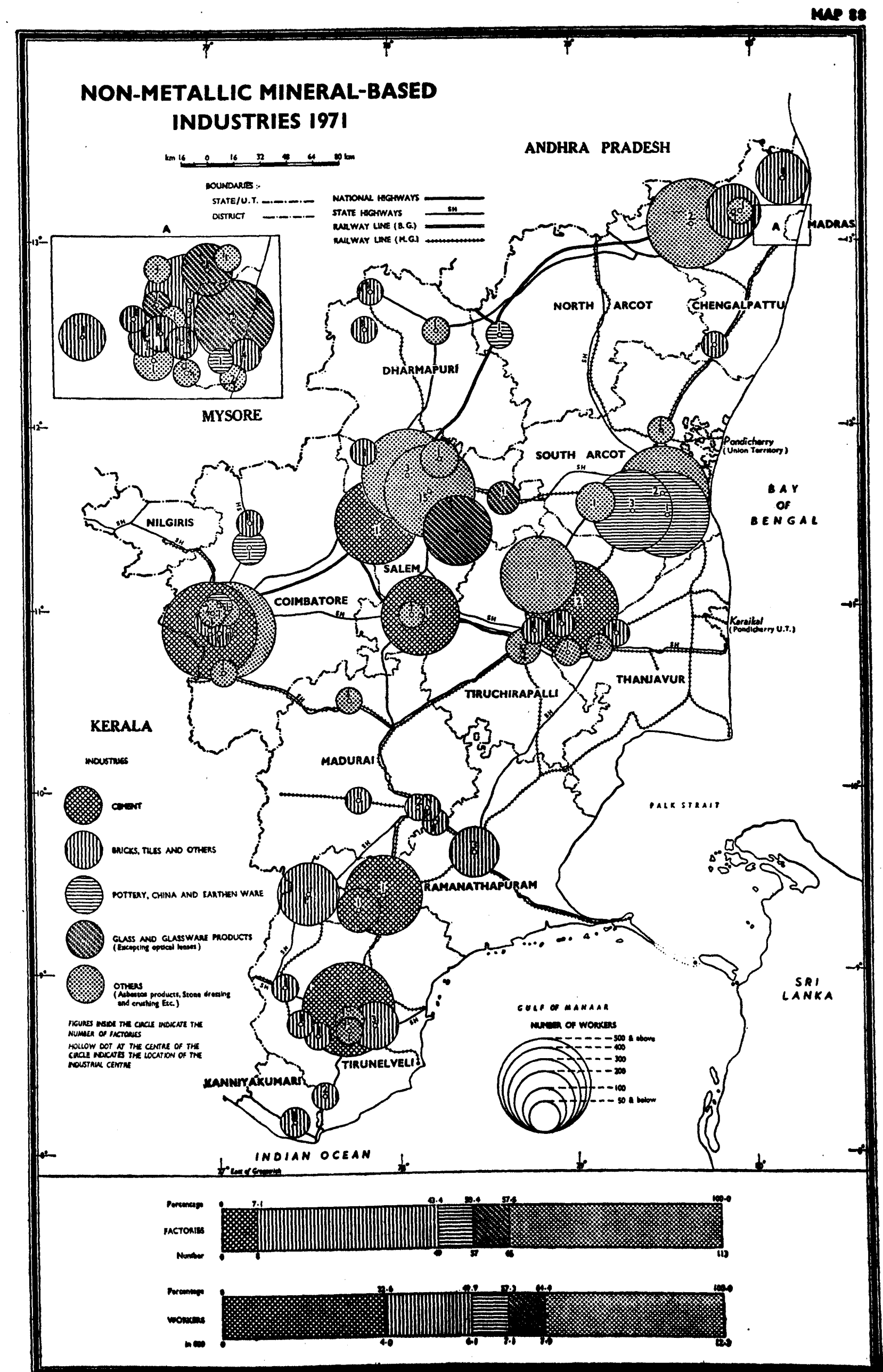
Forty-eight factories manufacturing asbestos products and engaged in stone dressing, crushing, etc. employ 4,380 workers and these have been shown under "Others". Sixteen of these factories are engaged in stone dressing and crushing, three in asbestos products and 29 in other unclassified non-metallic mineral products. An asbestos cement unit with about 700 workers in Padanur near Coimbatore and another such unit with nearly 400 workers is in Arkonam. The briquetting and carbonising plant in Neyveli with 950 workers, the Dalmia ceramic industries in Dalmiapuram, Tiruchirapalli District (355 workers), Burn and Co., Ltd., Salem (426 workers), Salem Magnesite Ltd., Karuppur in Salem district (284 workers), Dalmia Magnesite corporation in Omalur taluk of Salem district (133 workers) are the prominent factories included in the above category.

Data on the number of factories in each of the five categories of industries discussed above are given below for state and districts.

Unit	Number of registered factories producing				
	Cement	Bricks, tiles and others	Pottery, china and earthenware	Glass and glassware products (excl. opt. glass)	Others (asbestos products, stone dressing, crushing etc.)
1	2	3	4	5	6
TAMIL NADU	8	41	8	8	48
Madras	..	4	1	4	2
Chengalpattu	..	10	—	2	6
North Arcot	..	—	1	—	2
South Arcot	..	—	4	—	4
Dharmapuri	..	2	—	—	1
Salem	..	1	—	2	19
Coimbatore	..	3	2	—	5
Nilgiris	..	—	—	—	—
Madurai	..	4	—	—	1
Tiruchirapalli	..	3	2	—	4
Thanjavur	..	1	—	—	2
Ramanathapuram	..	2	5	—	—
Tirunelveli	..	8	—	—	2
Kanniyakumari	..	1	—	—	—

The total number of factories in the five categories (in the order given above) and the workers in each are given in actual figures and percentages cumulatively in

the two horizontal bar diagrams shown below the main map.



ENGINEERING AND SCIENTIFIC INDUSTRIES 1971

This map shows the distribution of engineering and scientific industries in Tamil Nadu indicating their number and size of work-force. The factories falling under this type have been grouped under eight broad heads for presentation. Data for this map relate to 1971 and have been obtained from the Labour and Industries Department of the Tamil Nadu Government.

General and jobbing engineering industries are the most prominent of the eight types depicted, and in this category there are 305 factories employing nearly 20,000 persons in the whole state. Of these 305 factories, 15 factories fall under the manufacture of 'electrical machinery apparatus' while the others under electrical machinery. Roughly 40 per cent of these factories employing nearly 45 per cent of the total work force in such type of factories are located in Madras city and its environs. The other notable centres with considerable number of factories engaged in general and jobbing engineering are Coimbatore (52), Madurai (15) and Tiruchirappalli (12). A factory each in Madras, Neyveli and Mettur are large with 500-1,000 workers. The two big units with over 1,000 workers under this type are India Pistons Ltd., in Madras, and Bharat Heavy Electricals Ltd., near Tiruchirappalli.

Agricultural implements are mostly manufactured in and around Coimbatore where there are 73 such factories employing 4,429 persons. The state has only 11 factories engaged in manufacturing agricultural implements. There are six factories under this category in and around Madras city and five more are concentrated in Melur near Madurai. The two big units are P.S.G. and Sons at Peelamedu, (1,432 workers) and Tractors and Farm Equipments Ltd., at Madras (627 workers).

Electrical machinery are manufactured in 54 units in the state. Coimbatore city region is again the chief centre for such goods where there are 27 factories. Madras and its suburbs have 22 factories producing electrical machinery. The biggest factory with about 400 employees (English Electric Co. of India Ltd.) is in Pallavaram, suburb of Madras. Madras Switchgears in Ambattur near Madras, is also a big unit employing over 350 persons.

Under the category "manufacture of other machinery except electrical machinery", there are 102 units

employing 9,964 persons. Factories included in this category are those manufacturing hydraulic, ventilating, pneumatic and engineering machinery (9), those producing prime movers and boilers (7), machine tools, wood working machinery and other tools (42), textile machinery and accessories (18) and others (26). The centres of concentration of these factories are Madras (59) and Coimbatore (22). The factories of this category employing over 500 persons are Binny Ltd., and K.C.P. Ltd. in the Madras area, and Lakshmi Machine Works and Textools in Coimbatore area.

Seventy factories in the state manufacture electrical goods. One produces electric lamps, 9 manufacture electric fans, radiators and other accessories, three are storage units, eight make radios and phonographs, nine produce insulated wires and cables, two fall under telegraph and telephone workshops, 38 under 'others'. Majority of these factories (52) are concentrated in Madras and its environs. Important factories included in this category are Seshasayee Industries, Vadalur (1,025 employees), W.S. Insulators, Porur near Madras (832), National Carbon Company, Madras (885) and Hindustan Teleprinters, Guindy near Madras (992).

Ten factories produce photographic and optical goods, cinematograph films, etc. The Hindustan Photo Film manufacturing unit near Ootacamund is the premier factory producing films with about 1,700 workers. Eight units, mostly producing optical goods are located near Madras.

Fourteen factories in the state produce professional scientific measuring and controlling instruments. Ten of these are in Madras and surrounding towns, three in Coimbatore area and one in Nagercoil. Surgical instruments plant in Nandambakkam near Madras employing about 600 persons and P.Orr and Sons with about 125 workers are the bigger units under this category.

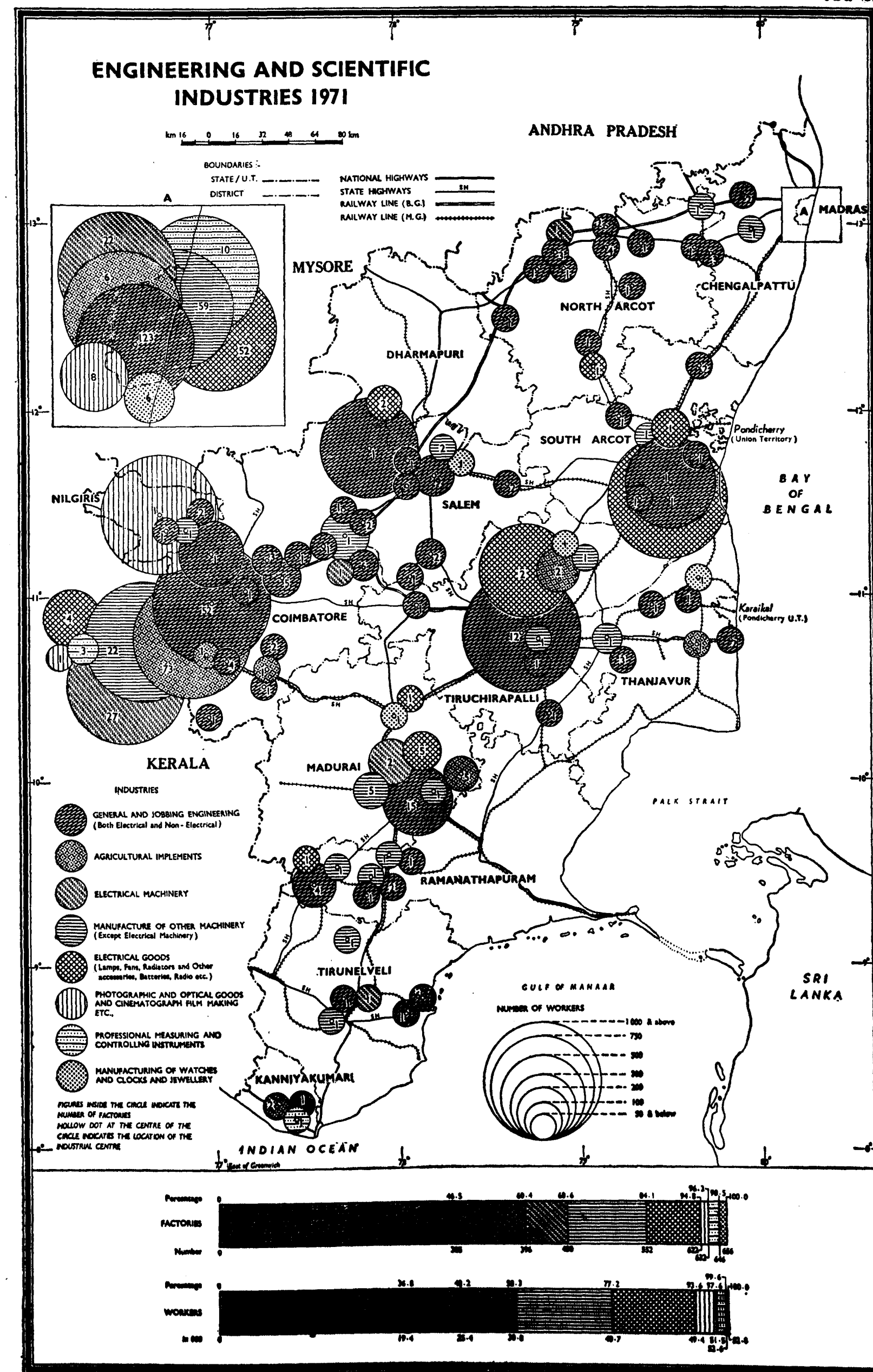
Ten units in the state produce watches, clocks, Jewellery and related articles.

The distribution of the factories in the state and districts for some of the above - said important categories are presented below :

Unit	General and jobbing engineering	Agricultural implements	Electrical machinery	Other machinery (except electrical machinery)	Electrical goods
1	2	3	4	5	6
TAMIL NADU ..	305	91	54	102	70
Madras ..	84	4	12	26	29
Chengalpattu ..	45	2	10	34	23
North Arcot ..	15	—	1	1	1
South Arcot ..	6	—	—	1	2
Dharmapuri ..	—	—	—	—	—
Salem ..	19	—	—	2	2
Coimbatore ..	79	75	28	23	4
Nilgiris ..	3	—	—	1	—
Madurai ..	15	5	2	6	6
Tiruchirappalli ..	15	2	—	2	2
Thanjavur ..	7	1	—	1	—
Ramanathapuram ..	8	—	—	3	1
Tirunelveli ..	8	—	1	2	—
Kanniyakumari ..	1	2	—	—	—

The number of factories and workers in respect of the eight categories mentioned in the map (in that order) are shown in the two horizontal bar diagrams below the

main map with indications of cumulative numbers of factories and workers as well as their percentages for each category.



9. TRANSPORT AND COMMUNICATIONS

MAP 90

RURAL WORKERS IN CONSTRUCTION, TRANSPORT AND COMMUNICATIONS 1971

This map shows the percentage of workers engaged in construction, transport and communications to total workers in the rural areas of taluks. Excluding Madras city which is entirely urban, all the 116 taluks of the state are shown in the map. The taluks have all been brought under six broad ranges and depicted by choropleth shown in the map legend.

At the state level, there are 196,993 workers who are engaged in various occupations under the industrial categories of construction, transport, storage and communications out of a total of 10.97 million rural workers returned in 1971 census. In general 1.80 per cent of rural workers are engaged in such activities in the state. Twelve of the 116 taluks have over three per cent of their rural workers engaged in these activities. The highest percentage is recorded in Saidapet taluk (6.94 per cent) which encompasses most of the suburban areas as well as rural areas which are now in the gradual process of urbanisation. Construction activities as also workers in transport and communications in these rural areas of Saidapet taluk (93 inhabited villages) are obviously more when compared with other taluks. There are 3,336 such workers in this taluk out of a total of 48,065 rural workers. Kalkulam taluk in Kanniyakumari district has the second highest percentage of 5.59. There are four taluks having 4 to 5 per cent of rural workers in such categories which are Coonoor (4.71), Chengalpattu (4.25), Vilavancode (4.09) and Tiruchirapalli (4.08). Three taluks of Kanniyakumari

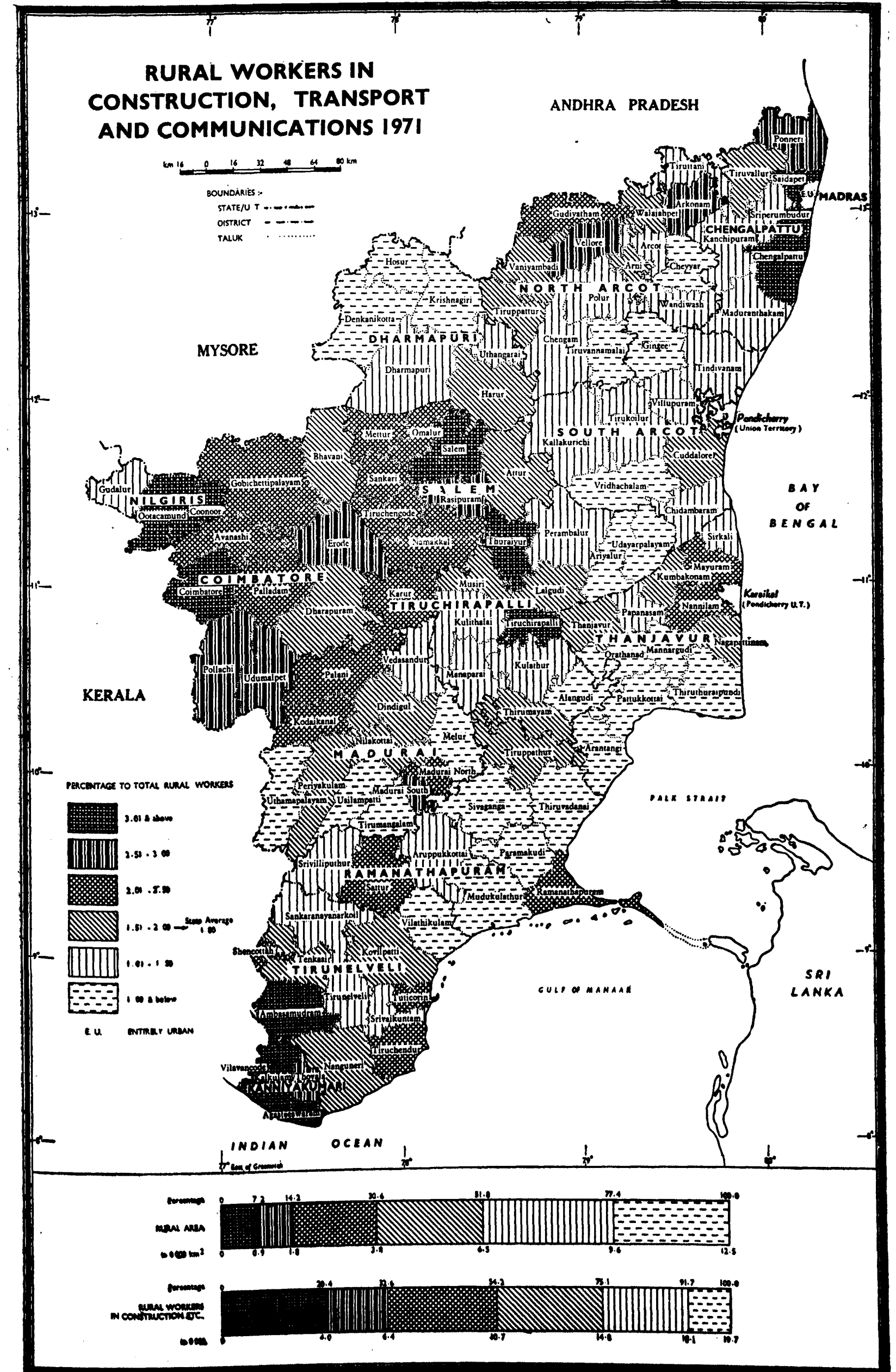
district and one taluk of Tirunelveli district claim over 3 per cent of such workers. There are nine taluks in the percentage range of 2.51 to 3.00 of which three are in Coimbatore district, two in North Arcot district one each in Chengalpattu, Salem, Madurai and Kanniyakumari districts. Twenty taluks fall in the range of 2.01 to 2.50 per cent forming more or less a contiguous region in the western part of the state spread over in the districts of Coimbatore, Salem, Tiruchirapalli and Madurai. There are 23 taluks in the range of 1.51-2.00 per cent of rural workers engaged in construction, transport and communications. Of these, four are in North Arcot and three each in Thanjavur, Tiruchirapalli, Madurai and Tirunelveli districts. The largest number of taluks, viz., 28 are in the percentage range of 1.01-1.50, and a large number of these are found in the middle and northern parts of the state. Five out of the eight taluks of South Arcot district and four taluks each in Chengalpattu, North Arcot and Tiruchirapalli districts are in this range. Twenty-four taluks have one per cent and less of rural workers in the categories of construction, transport and communications and these are mainly located in the districts of Thanjavur, Tiruchirapalli, Madurai and Ramanathapuram.

The percentage of workers engaged in construction, transport, storage and communications among the rural workers of districts and the number of the taluks in each district falling in the six ranges as shown in the map are given below :

Unit	Percentage of rural workers in construction, transport and communications	Number of taluks with percentage of rural workers in the range of					
		3.01 and above	2.51-3.00	2.01-2.50	1.51-2.00	1.01-1.50	1.00 and below
1	2	3	4	5	6	7	8
TAMIL NADU	1.80	12	9	20	23	28	24
Madras	..	..	Entirely urban				
Chengalpattu	2.33	2	1	—	1	4	—
North Arcot	1.62	—	2	1	4	4	2
South Arcot	1.16	—	—	—	1	5	2
Dharmapuri	1.06	—	—	—	1	2	3
Salem	2.48	1	1	5	1	—	—
Coimbatore	2.50	1	3	3	2	—	—
Nilgiris	3.78	2	—	—	—	1	—
Madurai	1.40	—	1	3	3	1	4
Tiruchirapalli	1.62	2	—	1	3	4	3
Thanjavur	1.39	—	—	2	3	2	5
Ramanathapuram	1.24	—	—	2	1	2	4
Tirunelveli	1.75	1	—	3	3	3	1
Kanniyakumari	4.41	3	1	—	—	—	—

Two horizontal bar diagrams showing the area and rural workers in construction, transport and communications of the districts falling under the six ranges

as shown in the map legend from high to low are presented below the main map along with cumulative figures and percentages for the ranges marked on them.



MAP 91

URBAN WORKERS IN CONSTRUCTION, TRANSPORT AND COMMUNICATIONS 1971

This map shows the percentage of workers engaged in construction, transport and communications to total urban workers of 1971 for each taluk, and is based on similar technique as the previous map for rural workers. Of the 116 taluks of the state, there are no urban areas in seven taluks. Madras city - an independent district - has been considered as one unit for purposes of this map. All the 110 taluk units have been grouped under six broad percentage ranges as in map legend and have been hatched accordingly.

At the state level, there are 502,899 urban workers engaged in various works of construction, transport, storage and communication services. Such workers form 13.34 per cent of the total workers numbering 3.77 million in urban areas in Tamil Nadu. Construction workers are generally, more in the urban areas than in rural, in view of the larger activity of building construction in these areas for both housing as well as non-residential uses like factory, business etc. There are on the whole 128,995 construction workers engaged in construction and 373,904 workers engaged in 'transport, storage and communications in the urban areas of the State'.

Nearly one-third of the state's workers in the above activities are found in Madras City. This is so in view of the enormous construction activity as well as transport/communication services that are found in Madras, as it is the state headquarters and biggest city of industrial and commercial importance in South India.

Arkonam taluk of North Arcot district shows the highest percentage of 30.62 of such workers among the taluks. Arkonam Municipality being a big town and a railway junction has, within its area, a locomotive repair unit where numerous workers are employed. Villu-

puram Taluk in South Arcot district has a percentage of 24.67 of workers in construction, transport, etc. This is also an important town on the main national highway from Madras to the southern region and has a number of transport undertakings, workshops and repair units. Madras and Tiruppattur taluk are the other two units which show comparatively higher percentages of 23.38 and 20.01 respectively. Tiruvannamalai Taluk (19.62) in North Arcot district and Tuticorin (19.92) in Tirunelveli district which is a major port have also recorded good percentages of such workers in their urban areas. Thus, there are six taluks with over 19 per cent of their workers in construction, transport, storage and communications in their respective urban areas.

There are six taluks have between 16 and 19 per cent of urban workers in the above categories of work. These are located in the northern and central regions. Thirteen taluks fall in the percentage range of 13.01-16.00. Except Kodaikanal in Madurai district, there are no taluks of this range in the four southern districts. Nilgiris district too does not have any taluk of this range.

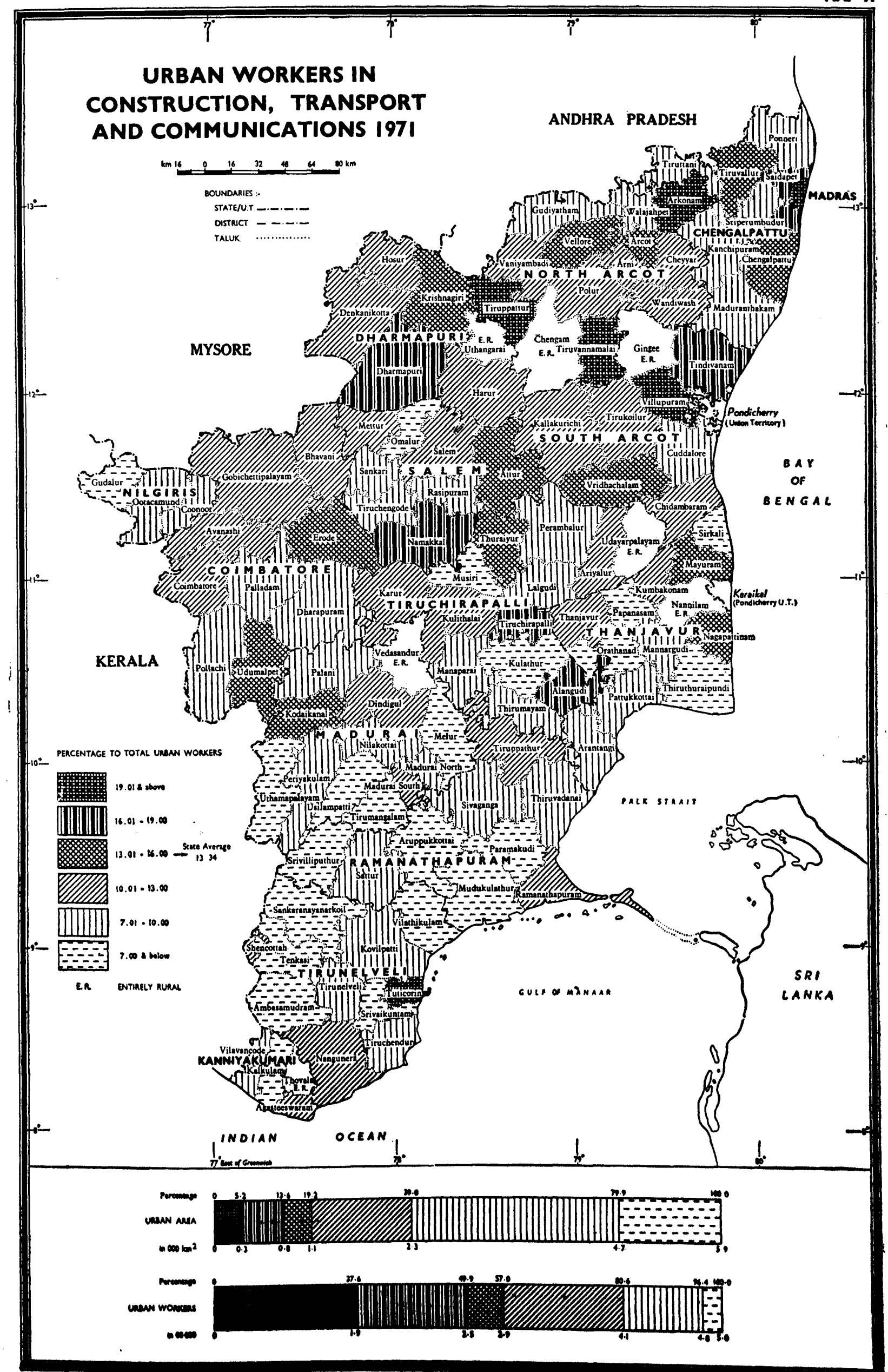
Many of the taluks in the southern districts fall in the lower ranges of 7-10 and below seven. The largest number of taluks (34) to fall in a single percentage range is 7.01-10.00 and these taluks are spread over all regions of the state. While 29 taluks have percentages between 10.01 and 13.00, there are 22 taluks which have recorded percentages of seven and below.

The percentage of workers engaged in construction transport, storage and communications among the urban workers of each district, and the number of taluks (in each district) in the six ranges as shown in the map are given below :

Unit	Percentage of urban workers in construction, transport, storage and communication	Number of taluks with percentage of their urban workers in construction, transport, etc. activities in the range of					
		19.01 and above	16.01-19.00	13.01-16.00	10.01-13.00	7.01-10.00	7.00 and below
1	2	3	4	5	6	7	8
TAMIL NADU	13.34	6	6	13	29	34	22
Madras	23.38	1	—	—	—	—	—
Chengalpattu	14.12	—	1	2	—	5	—
North Arcot	13.95	3	—	2	5	2	—
South Arcot	13.05	1	1	1	3	1	—
Dharmapuri	14.43	—	1	1	3	—	—
Salem	11.24	—	1	1	2	3	1
Coimbatore	10.81	—	—	2	4	3	—
Nilgiris	6.87	—	—	—	—	2	1
Madurai	9.28	—	—	1	2	4	4
Tiruchirapalli	14.43	—	2	1	3	4	2
Thanjavur	10.59	—	—	2	2	3	4
Ramanathapuram	7.14	—	—	—	2	3	4
Tirunelveli	9.17	1	—	—	2	3	5
Kanniyakumari	11.20	—	—	—	1	1	1

Two horizontal bar diagrams showing the area and urban workers in construction, transport, storage and communications of the districts falling under the six

ranges as shown in the map legend are presented below the main map with the cumulative figures and percentages for each range (from high to low) marked in them.



MAP 93

DENSITY OF SURFACED ROADS 1971

This map shows the availability of surfaced roads in the state. The importance of road transport system in the economy of the state can be clearly seen from this map.

The national highways, state highways, major district and other roads have been taken into account for computation of total length of surfaced roads in the state according to One inch = 16 miles map of Tamil Nadu. The state was marked into squares representing an area of 10,000 km². The length of the three categories of roads mentioned above falling inside each square was calculated and the density of roads within each square was worked out. The densities were plotted and isopleths at suitable intervals were drawn and hatched from high to low as per the legend.

A very high density zone of above 1,500 kilometres per 10,000 km² of area is noticed in and around Madras City. This zone includes besides the metropolitan city of Madras, Ponneri, Tiruvallur, Saidapet, Sriperumbudur and Chengalpattu taluks of Chengalpattu district. Immediately following is another zone of high density (1,200-1,500 kilometres of surfaced roads per 10,000 km² of area) which covers the rest of Chengalpattu district and part of North Arcot district in the north. The above areas are closely connected with the city of Madras, the chief industrial and port town of the state and naturally has high road density. A larger and continuous stretch of high density zone is to be seen on the eastern coast extending from Nagapattinam taluk in Thanjavur district in the north to Kanniyakumari in the south. This zone covers parts of Thanjavur, Tiruchirapalli, Ramana-thapuram and Tirunelveli districts and the whole of Kanniyakumari district. Lack of railway communication in Kanniyakumari district may be noted. A smaller zone with the same density is noticed over the central region of the southern part of Salem district (Namakkal and Tiruchengode taluks and part of Rasi-puram taluk) and the eastern and central part of Coimba-tore district (Erode and parts of Palladam, Dharapuram and Avanashi taluks.)

Low density of 800-1,000 kilometres of surfaced road per 10,000 km² of area is to be seen on the western part of the state extending from Dharmapuri district in the north to western part of Tirunelveli district in the south. A small pocket of low density zone (800-1,000

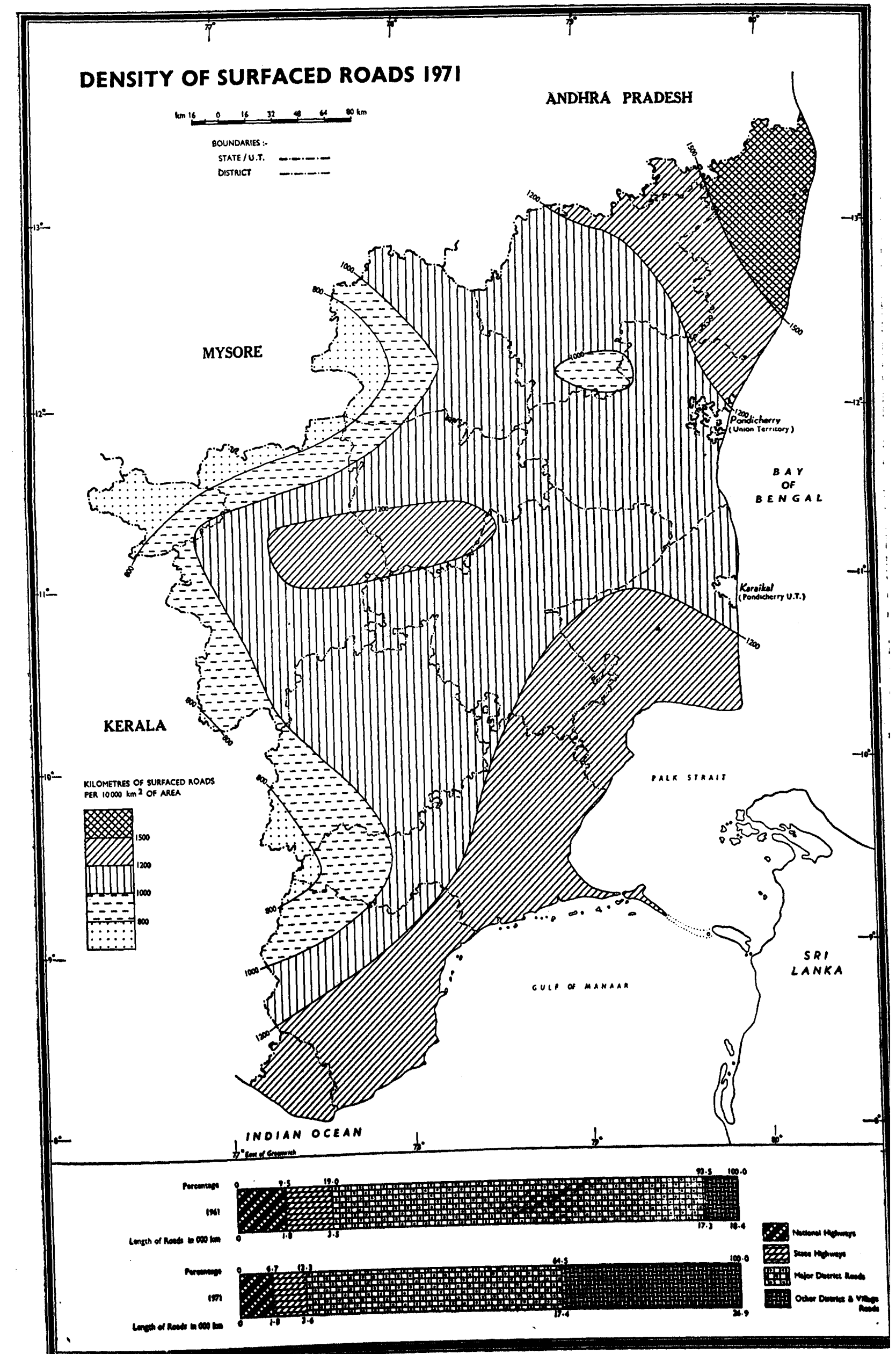
kilometres per 10,000 km² of area) is noticed in the southern part of North Arcot district (parts of Tiru-vannamalai and Chengam taluks). A very low density area of below 800 kilometres of surfaced roads closely follows this low density zone in Dharmapuri, Coimbatore and Nilgiris districts, in the north-western part of Tamil Nadu. In the south-western part of the state also, a very low density area is seen in Coimbatore, Madurai, Ramanathapuram and Tirunelveli districts. Most of these regions are rugged and as such a low road density occurs.

Barring these high and low density areas, the rest of the state comes under a moderate density zone with 1,000-1,200 kilometres of surfaced roads per 10,000 km² of area. This zone covers large area of the State and extends from North Arcot and Dharmapuri districts in the north and west of the state to the western part of Tirunelveli in the south. The coastal areas of South Arcot and Thanjavur districts are also covered in this zone. This zone covers the plain regions of the state and is connected with all the important urban centres in the zone.

The statement below gives the length in kilometres of the three categories of roads and their percentages to total length of roads in 1971.

Type of road	Length (km)	Percentage
1	2	3
National Highways	1,804	6.7
State Highways	1,780	6.6
Major District and other roads ..	23,313	86.7
Total ..	26,897	100.0

Two bar diagrams below the main map show the length of the different categories of roads in 1961 and 1971 together with their percentages to total length of roads in cumulative terms.



MAP 95

MOTOR VEHICLES REGISTERED 1971

This map shows the number of motor vehicles registered per 10,000 population in 1971 at district level. The population data are from 1971 census and the data relating to registered motor vehicles have been gathered from the office of the Transport Commissioner of the Tamil Nadu Government for the same period. Based on the ratio of the motor vehicles to the population, all the districts have been grouped into six broad ranges as shown in the map legend.

The total number of registered motor vehicles (transport and goods) in the state is 127,073 and this gives a ratio of 31 vehicles per 10,000 of population at state level. Nearly 36 per cent of the state's registered motor vehicles are in Madras city and it is therefore obvious that among districts it has the highest ratio of 187 registered motor vehicles per 10,000 population. This is due to the industrial and commercial development of Madras which is also the headquarters of the State Government. There are 46,107 registered vehicles in Madras which includes 760 tourist taxis. The district of Coimbatore which has a number of textile mills,

engineering and machinery manufacturing units and possesses a sound industrial infra-structure indicates the second highest ratio of registered motor vehicles at 66 per 10,000 persons. The hilly Nilgiris district has a sizable number of registered vehicles (2,186) giving a ratio of 44 vehicles and is the third among the districts of the state. Only the above three districts out of the 14 districts in the state possess higher ratio than the state average ratio of 31 vehicles per 10,000 persons. Salem (29) and Madurai (21) are the two other districts with good ratios.

Dharmapuri, the district which is industrially backward has the poorest ratio of four vehicles per 10,000 of its population. The other districts with very low ratio of vehicles are South Arcot (9), Ramanathapuram (10), North Arcot (10) and Thanjavur (11).

Data on the population, registered motor vehicles and the ratio of latter for every 10,000 persons are given below for state and districts.

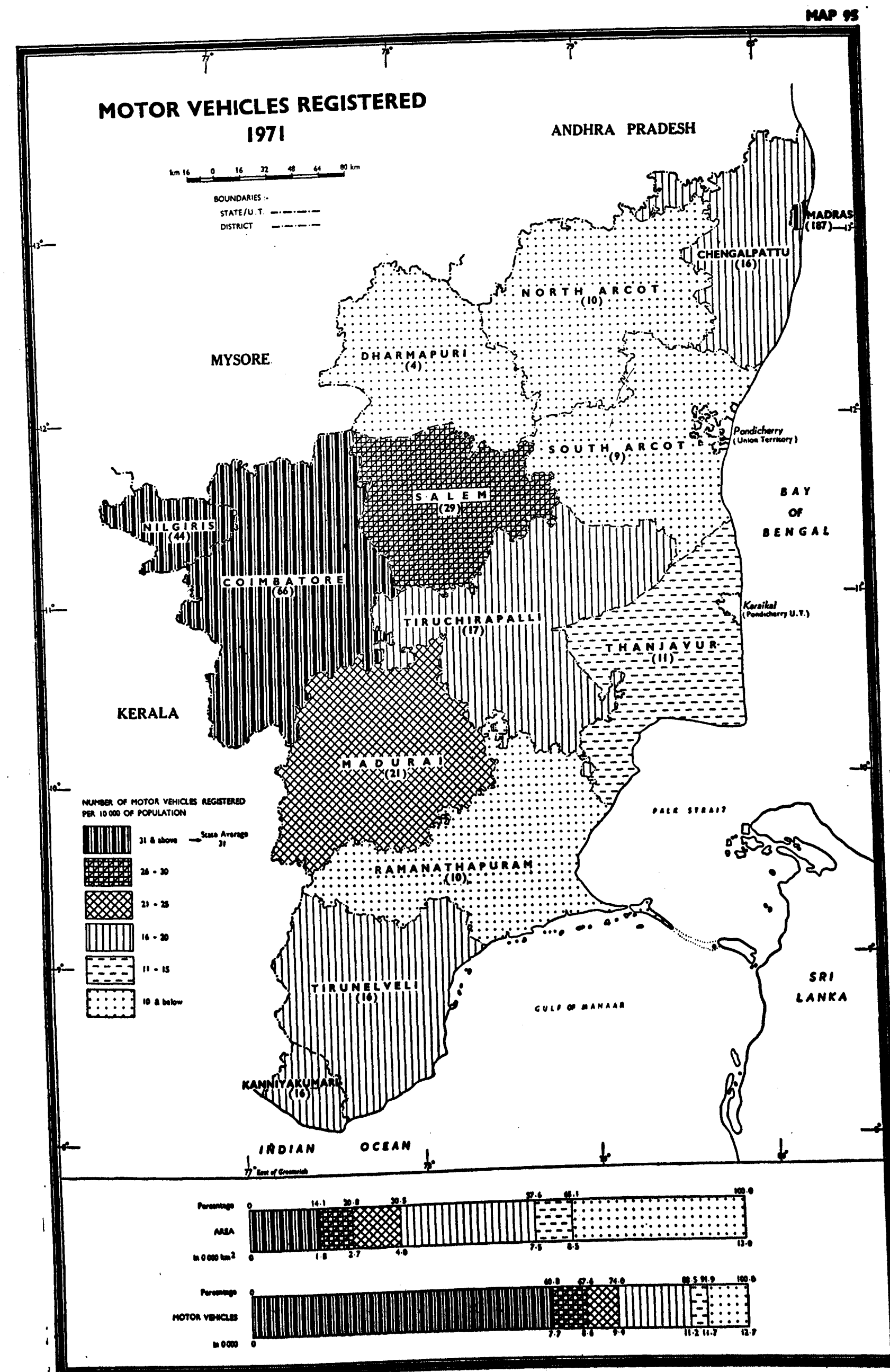
Unit	Population 1971	No. of registered motor vehicles	Registered motor vehicles per 10,000 population
1	2	3	4
TAMIL NADU ..	41,199,168	127,073	31
Madras ..	2,459,449	46,107*	187
Chengalpattu ..	2,907,599	4,777	16
North Arcot ..	3,755,797	3,648	10
South Arcot ..	3,617,723	3,232	9
Dharmapuri ..	1,677,775	645	4
Salem ..	2,992,616	8,747	29
Coimbatore ..	4,373,178	28,911	66
Nilgiris ..	494,015	2,186	44
Madurai ..	3,938,197	8,145	21
Tiruchirapalli ..	3,848,816	6,487	17
Thanjavur ..	3,840,732	4,327	11
Ramanathapuram ..	2,860,207	2,740	10
Tirunelveli ..	3,200,515	5,134	16
Kanniyakumari ..	1,222,549	1,987	16

*Includes 760 tourist taxis.

Source : Transport Commissioner, Govt. of Tamil Nadu.

Two bar diagrams showing the area and number of registered motor vehicles of the districts falling under the six ranges from high to low as in the legend are

presented below the main map wherein the actual figures and percentages for the ranges are indicated in a cumulative manner.



10. TRADE AND COMMERCE

MAP 96

WORKERS IN TRADE AND COMMERCE 1971

This map shows the percentage of workers in trade and commerce to total workers at the taluk level according to 1971 Census. The percentage figures have been grouped into six ranges and the taluks falling under each range have been hatched by choropleth as shown in the legend. Trade and Commerce is an important industrial category under the tertiary sector of the economy and hence, we find quite good number of workers engaged in trade & commercial activities.

There are 1.15 million workers in trade and commerce in the state, and they constitute 7.83 per cent of the total workers. Madras city - the premier commercial city of the southern region - reveals the highest percentage of workers in trade and commerce (24.34). Commanding the facility of a big harbour, railway terminals and good transportable roads branching in all directions, it is only to be expected that industrialised Madras with its galore of big and small bazaars, replete with wholesale and retail merchants dealing in every conceivable commodity, has a high percentage of traders among workers. Madurai south taluk, having within its area the second biggest city of Tamil Nadu viz., Madurai, shows the second highest percentage of traders among workers (23.90). Madurai city is also a very prominent commercial city in the southern region. Tiruchirapalli Taluk (18.25 per cent) and Tuticorin Taluk (17.04) having important cities in their area also show impressive percentages of workers engaged in trade. There are twelve taluks having 10 to 15 per cent of workers engaged in trade and commerce. Thus, sixteen taluks well spread out in various regions of the state have over ten per cent of workers in this industrial category.

Ten taluks fall in the percentage range of 8.01 to 9.50 and three such taluks are in Ramanathapuram and two more are in Coimbatore district. Eighteen taluks have percentages of trade and commerce workers between 6.51 to 8.00 and most of them are in the central and southern regions of the State. Four such taluks

are in Tirunelveli district, three each in North Arcot and Thanjavur districts and two each in Coimbatore and Ramanathapuram districts.

The largest number of taluks fall in the percentage range of 5.01 - 6.00 (29 taluks) and almost one fourth of the total number of taluks in the state are in this range. More than half of these taluks are in the central parts of the state. There are five taluks of this range in Madurai district and four more taluks are in Thanjavur district. Three taluks in this range are noticed in each of the districts of Chengalpattu, North Arcot and Coimbatore, Ramanathapuram and Dharmapuri districts do not have any taluk of this range.

Twenty five taluks in the state have recorded between 3.51 and 5.00 per cent of workers in trade and commerce. Four taluks each belonging to this percentage range are seen in Dharmapuri, Salem and Tiruchirapalli districts. Nilgiris in the west, Thanjavur on the east and Kanniyakumari in the south are the districts where no taluk with such low percentages of trade and commerce workers exist.

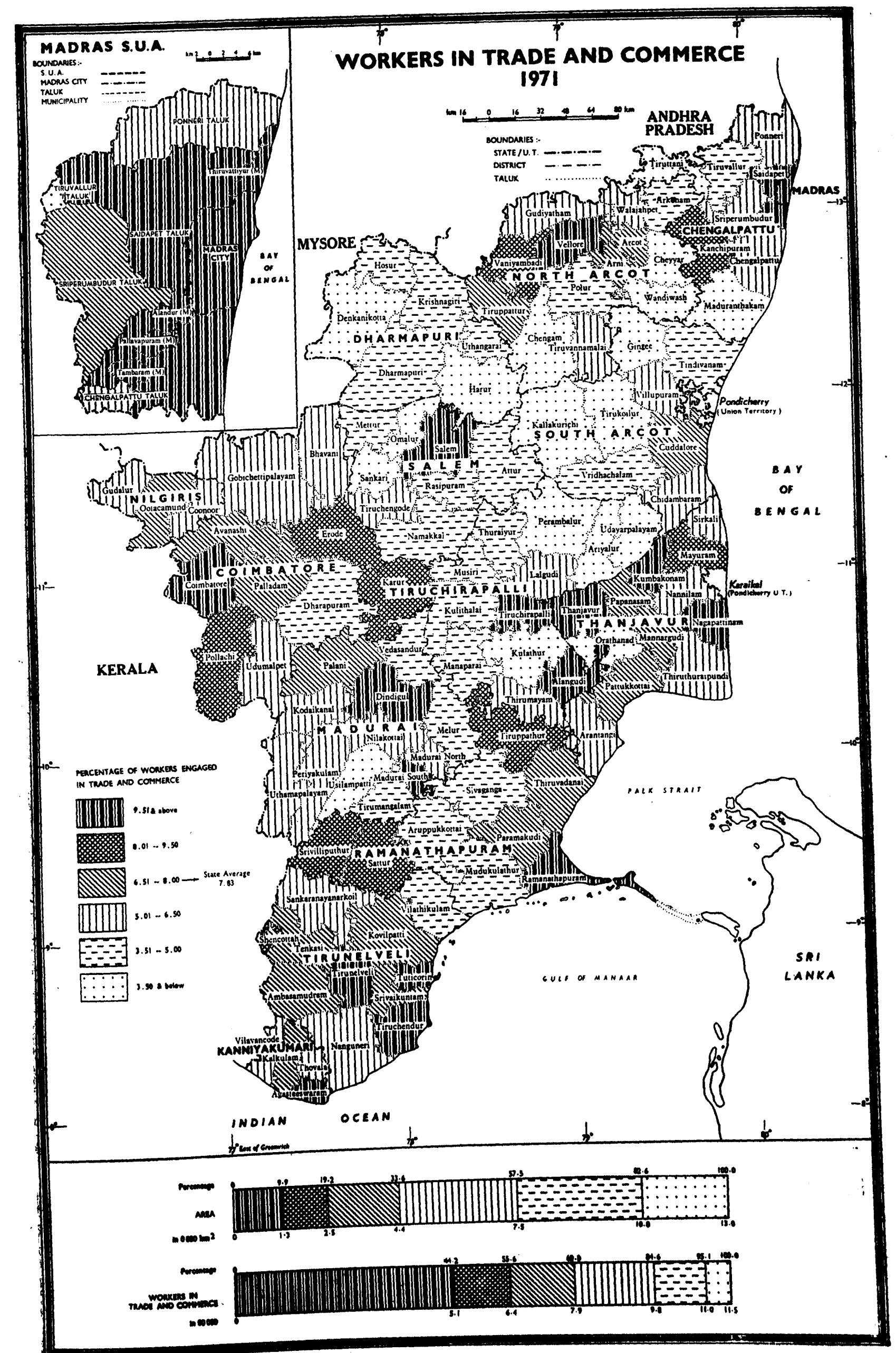
There are eighteen taluks in the lowest range of 3.50 per cent and below, and most of these are in the northern districts of Chengalpattu (2 taluks), North Arcot (3), South Arcot (3), Dharmapuri (2) and Salem (2). Tiruchirapalli district has four taluks in this lowest range. Three districts in the south and two in the west do not have any taluk of this lowest range. Nine taluks have less than three per cent of workers in trade. The lowest percentage is in Perambalur taluk (2.07) of Tiruchirapalli district. The other taluks with very low ratios are Gingee taluk (2.30 per cent) in South Arcot district and Udayarpalayam taluk (2.45 per cent) of Tiruchirapalli district.

The Number of workers in trade and commerce and the taluks with percentage of such workers to total workers in the six ranges are given below for state and districts.

Unit	Number of workers engaged in trade and commerce	Number of taluks with percentage of workers in trade and commerce to all workers					
		9.51 and above	8.01-9.50	6.51-8.00	5.01-6.50	3.51-5.00	3.50 and below
1	2	3	4	5	6	7	8
TAMIL NADU	1,154,222	17	10	18	29	25	18
Madras	169,531	1	—	—	—	—	—
Chengalpattu	64,724	1	1	—	3	1	2
North Arcot	81,321	1	1	3	3	2	3
South Arcot	56,053	—	—	1	2	2	3
Dharmapuri	25,273	—	—	—	—	4	2
Salem	68,248	1	—	—	1	4	2
Coimbatore	148,756	1	2	2	3	1	—
Nilgiris	12,685	—	—	1	2	—	—
Madurai	127,827	2	—	1	5	3	1
Tiruchirapalli	94,399	2	1	—	2	4	4
Thanjavur	102,609	3	1	3	4	—	1
Ramanathapuram	78,307	1	3	2	—	3	—
Tirunelveli	97,887	3	1	4	2	1	—
Kanniyakumari	26,602	1	—	1	2	—	—

An inset map of Madras Standard Urban Area with separate hatches for its constituent areas (at the level of taluks and municipalities) is also presented. A high percentage of trade and commerce workers in most of the surrounding areas of the core town of Madras may be observed from this inset map.

Two horizontal Bar diagrams showing the area and number of workers engaged in trade and commerce of the taluks falling in the six percentage ranges as in map legend (from high to low) are presented below the main map, with markings of cumulative figures and percentages for each range.



Urban Households living in rented Houses 1971

Out of the total number of the total number of Urban households ~~was~~ in the district was 25,250. Out of this, 9,520 ^{urban households} were living in rented houses. It shows that 37.70% of urban households live in rented houses.

p. 280.

Census Houses: A census house "is a building or part of a building having a separate main entrance from the road or common courtyard or stair-case, etc. used or recognised as a separate unit."

p. 278.

Dharmapuri district recorded the highest proportion of 90.90 percent of houses under 'residence' against 86.95% at the State level. Dharmapuri had 1.24% houses used partly as residence and partly as shop or workshop including household industry. The percentage of houses used as 'hostels, Sarais, dharmasalas, restaurants' etc was 1.53. Less than 2.00 per cent houses was used as shops, business houses and offices in the district and 0.57% was used as factories, workshops and worksheds. Others formed 4.24%.

11. SERVICES

WORKERS IN SERVICES 1971

This map shows the distribution of the taluks in the districts of the state into six ranges with reference to the proportion of workers engaged in other services as revealed at the 1971 Census. The data for this map has been compiled from the details available in the Primary Census Abstract of 1971 Census. All workers engaged in other services are shown under category IX in the Primary Census Abstract.

Workers in other services are covered by Divisions 4 and 9 of the National Industrial Classification Code structure and represent those engaged in public administration (Central and State Governments, local bodies), defence services, educational, scientific and research services, sanitary/medical and health services, community (religions and welfare) services, recreational and cultural services and personal services as also those engaged in the production and distribution of gas, electricity and water supply.

There are 117 taluks in Tamil Nadu including Madras City which is treated as a unit for this purpose. The state average proportion of workers engaged in other services to all workers is 9.25 per cent. Three ranges show taluks which come on the higher side of the state average and three ranges depict taluks falling on the lower side. Eighty four taluks in the state have proportions of workers in other services below the state average and 33 taluks have proportions above this average. Out of the 84 taluks which are below the state average proportion, 33 are in the percentage range 'below 6.26', 32 in the range of 6.26—7.75 per cent while 19 taluks come under the range 7.76—9.25 per cent. Among the 33 taluks which have proportions above the state average, 16 taluks come under 12.26 per cent and above, 7 taluks fall in the range 10.76—12.25 per cent and 10 taluks come under 9.26—10.75 per cent.

Madras city has the highest proportion of workers in services (23.34 per cent). The other 15 taluks in the first range of above 12.26 per cent are distributed in the

districts of Chengalpattu (2), North Arcot (1), Coimbatore (1), Nilgiris (2), Madurai (2), Tiruchirapalli (1), Thanjavur (1), Ramanathapuram (1), Tirunelveli (3) and Kanniyakumari (1). Most of these taluks have in them cities and bigger towns and consequently workers in other services are found in larger numbers. At the other end, Sankari taluk in Salem district has the lowest proportion of 4.31 per cent of workers in services. Besides this taluk, there are nine other taluks spread out in the districts of South Arcot (2), Dharmapuri (2), Salem (1) and Tiruchirapalli (4) which show less than 5 per cent of the total workers under other services. Most of these taluks are agricultural oriented and backward area with low urbanisation. Hence the percentage of workers engaged in services is lower.

All the taluks in Kanniyakumari and Madras City have shown proportion of workers in services above the state average. The proportion of workers in other services is below the state average of 9.25 per cent in all the taluks of Dharmapuri and Salem districts. Besides, majority of taluks in the districts of North Arcot (11), South Arcot (7), Coimbatore (6), Madurai (9), Tiruchirapalli (12), Thanjavur (8) and Ramanathapuram (7) show percentage of workers in services below the state average. There are no taluks categorised in the range 10.76—12.25 per cent, in the districts of North Arcot, South Arcot, Dharmapuri, Salem, Coimbatore, Nilgiris and Tiruchirapalli.

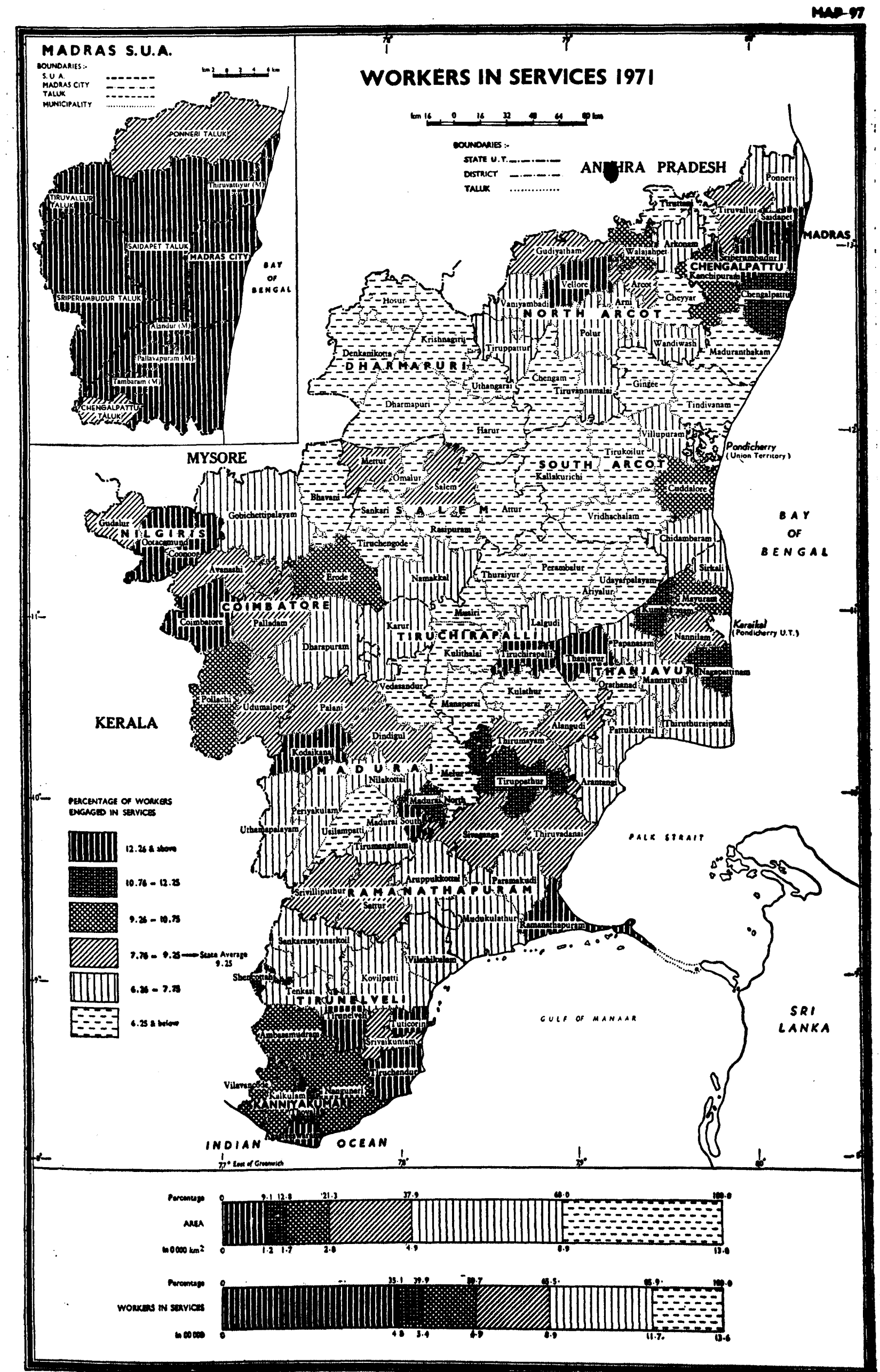
The taluks with lower percentage of workers in services are contiguous and mostly lie in the central and north-western region of the state. The southern part of Tirunelveli district and the entire Kanniyakumari district is a contiguous region with a higher percentage of workers in services.

The statement below gives the number of taluks coming under the six ranges as shown in the map legend, district-wise.

Unit	No. of taluks whose percentage of workers in services are						Total
	12.26 and above	10.76 to 12.25	9.26 to 10.75	7.76 to 9.25	6.26 to 7.75	6.25 and below	
1	2	3	4	5	6	7	8
TAMIL NADU	16	7	10	19	32	33	117
Madras	1	—	—	—	—	—	1
Chengalpattu	2	1	1	1	1	2	8
North Arcot	1	—	1	2	7	2	13
South Arcot	—	—	1	—	2	5	8
Dharmapuri	—	—	—	—	—	6	6
Salem	—	—	—	2	1	5	8
Coimbatore	1	—	2	3	2	1	9
Nilgiris	2	—	—	1	—	—	3
Madurai	2	1	—	2	4	3	12
Tiruchirapalli	1	—	—	2	2	8	13
Thanjavur	1	2	1	1	6	1	12
Ramanathapuram	1	1	—	4	3	—	9
Tirunelveli	3	1	2	1	4	—	11
Kanniyakumari	1	1	2	—	—	—	4

In the inset map, the proportions of workers in other services for Madras City, four municipal towns and for other taluk areas in Chengalpattu district, constituting the Madras Standard Urban Area, are shown.

The two bar diagrams below the main map show the absolute figures and percentages, of the area in km² and the number of workers engaged in other services for the taluks coming under the six ranges shown in the legend in cumulative terms.



WORKERS IN VARIOUS SERVICES 1971

A set of four maps show the percentage of workers in certain important services among workers falling under the industrial category "Other services" in 1971 census. The maps are presented upto district level and relate to the more important classes of workers, viz. those engaged in (i) public services, (ii) educational and scientific services, (iii) medical and health services and (iv) personal and other miscellaneous services. The districts have been grouped into five ranges in each of the four maps though the individual ranges vary. Data on workers in the various services have been culled out from the 1971 census economic Table B-IV Part-A.

At the state level, 25.41 per cent of the workers in "Other services" are engaged in public services. "Public services" include services in the Union Government, State Government including police services, local bodies, departments engaged in administration like local taxation, business regulations etc. and those in quasi-governmental bodies. Madras has the highest percentage of 32.56 per cent of workers in such services under public services and this is obviously due to the location of headquarter offices of the various departments of the state and Central Governments. Chengalpattu (33.92 per cent) and North Arcot (29.28 per cent) have also sizable ratios of workers in public services. Nilgiris (26.53) and Thanjavur (27.03) are the two other districts possessing higher percentage of such workers in 'other services' category. Coimbatore district has the least ratio of 19.11 per cent and no other district possesses less than 20 per cent.

Under 'educational and scientific services' Kanniyakumari district has the highest ratio of workers of 29.53 per cent. South Arcot, Tiruchirapalli and Dharmapuri have also recorded comparatively high ratios. Services rendered in technical or non-technical schools,

colleges, universities and other educational institutions and research and scientific services in institutions/laboratories engaged in research in biological, physical, social sciences, meteorological institutes and medical research organisations are all included in this category of services. Strangely enough, Madras (18.01 per cent) and Coimbatore (18.95 per cent) districts, the two most industrialised districts of the state have very poor ratios in this category when compared with other districts.

Madras has the highest percentage of workers (9.25) under medical and health services. The location of a number of Govt. hospitals, dispensaries and clinics here must have contributed to this phenomenon. Health and medical services rendered through hospitals, dispensaries, sanatoria, nursing homes, maternity and child welfare centres through allopathic, ayurvedic, unani and homeopathic systems are included in this group. Kanniyakumari district has also a very good ratio of 7.73 per cent while North Arcot district has recorded 7.18 per cent of service workers in this category. Dharmapuri, Tiruchirapalli and Tirunelveli districts have poor ratios in this regard.

Coimbatore district ranks first with 41.40 per cent of workers in regard to service workers engaged in personal and other miscellaneous services which include domestic services, laundering, hair dressing etc. Tirunelveli and Ramanathapuram districts too closely follow with good ratios. Madras (20.20 per cent) and Chengalpattu (23.98 per cent) districts have low percentage of workers in such services.

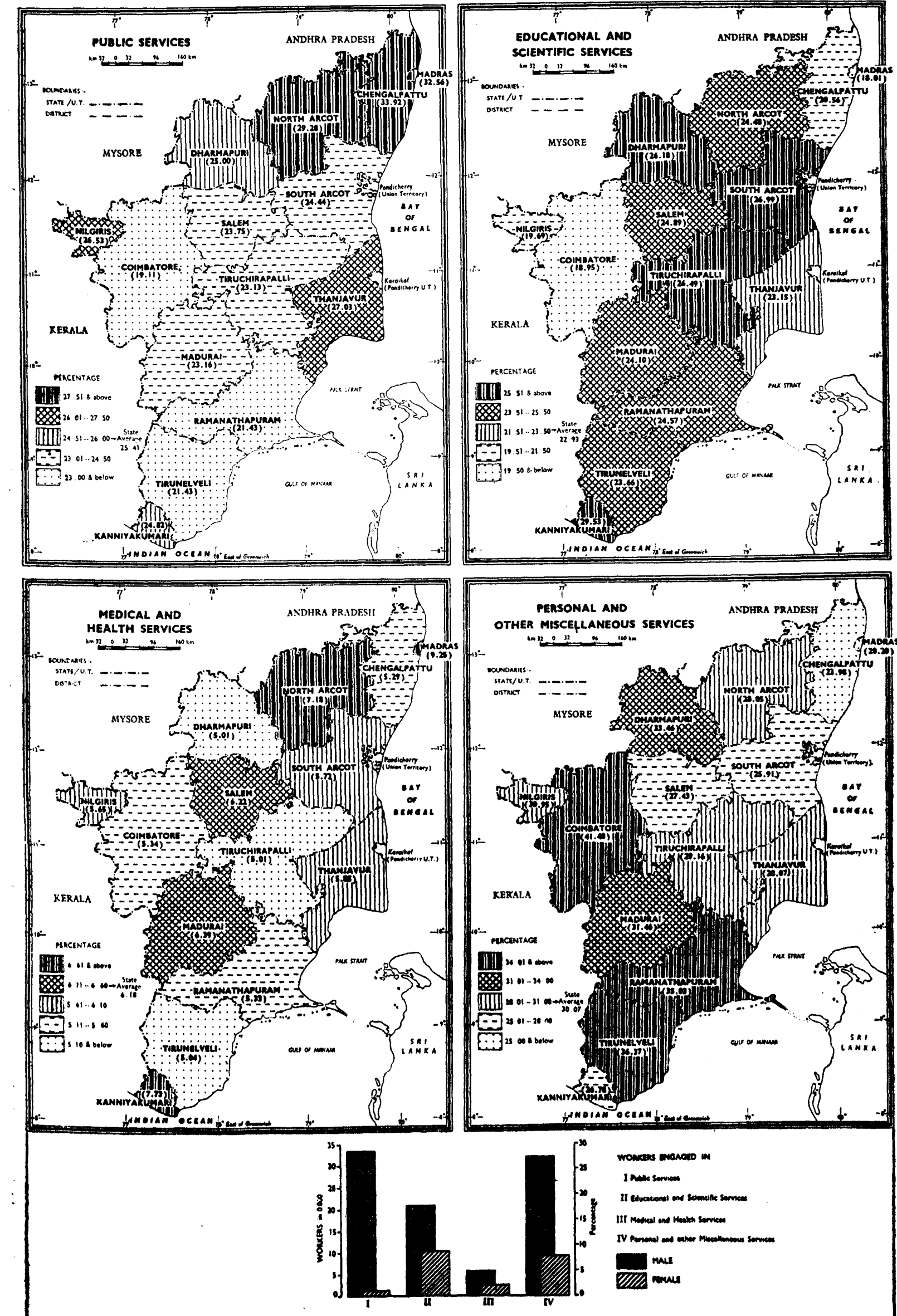
The number of workers in 'other services' with percentage of workers in the four major groups as in the maps are given below for state and districts.

Unit	Workers in other services	Percentage of workers in "other services" engaged in			
		Public services	Educational & scientific services	Medical & health services	Personnel and other miscellaneous services
1	2	3	4	5	6
TAMIL NADU	.. 1,363,715	25.41	22.93	6.18	30.07
Madras	.. 162,504	32.56	18.01	9.25	20.20
Chengalpattu	.. 104,669	33.92	20.56	5.29	23.98
North Arcot	.. 106,903	29.28	24.48	7.18	28.05
South Arcot	.. 78,802	24.44	26.99	5.72	25.91
Dharmapuri	.. 33,899	25.00	26.18	5.01	33.46
Salem	.. 75,078	23.75	24.89	6.22	27.43
Coimbatore	.. 171,098	19.11	18.95	5.34	41.40
Nilgiris	.. 26,333	26.53	19.69	5.65	30.95
Madurai	.. 133,036	23.16	24.10	6.39	31.46
Tiruchirapalli	.. 104,295	23.13	26.49	5.01	29.16
Thanjavur	.. 115,877	27.03	23.15	5.85	28.07
Ramanathapuram	.. 91,966	21.43	24.57	5.33	35.03
Tirunelveli	.. 116,488	21.43	23.66	5.04	36.37
Kanniyakumari	.. 42,767	24.82	29.53	7.73	26.78

To give an idea of the male/female composition in the categories of employment under discussion, bar diagrams representing state level employment in the four services (shown in the maps) are presented at the bottom

of the map. Actual number of workers in each group as also their percentages to all the workers under 'other services' are also indicated in these diagrams.

WORKERS IN VARIOUS SERVICES 1971



12. CASTES AND TRIBES

SCHEDULED CASTES 1971

This map shows the taluk-wise percentages of scheduled castes to population, as per 1971 census. Data on scheduled castes/tribes have been gathered in Census in accordance with the list under the Scheduled Castes and Scheduled Tribes (Modification) Order, 1956 as amended from time to time. All the 116 taluks and Madras city have been grouped under six broad ranges for depiction.

In Tamil Nadu, 17.76 per cent of the population belong to scheduled castes. Among all the taluks, Madurantakam in Chengalpattu district has the highest (36.93 per cent) percentage of scheduled castes. Three more taluks have over 30 per cent of scheduled caste population which are Sirkali (33.38 per cent) in Thanjavur district, Vrindhachalam (30.89 per cent) in South Arcot district and Tiruvallur (30.89 per cent) in Chengalpattu district. Five taluks each in the districts of Chengalpattu, South Arcot and Thanjavur and one taluk in Tiruchirapalli district have a ratio of over 26 per cent. All the 16 taluks in the high range are situated in or near the coastal areas and form a continuous belt in these districts. There are eight taluks in the range of 22.01 to 26.00 per cent located in five districts and they are also

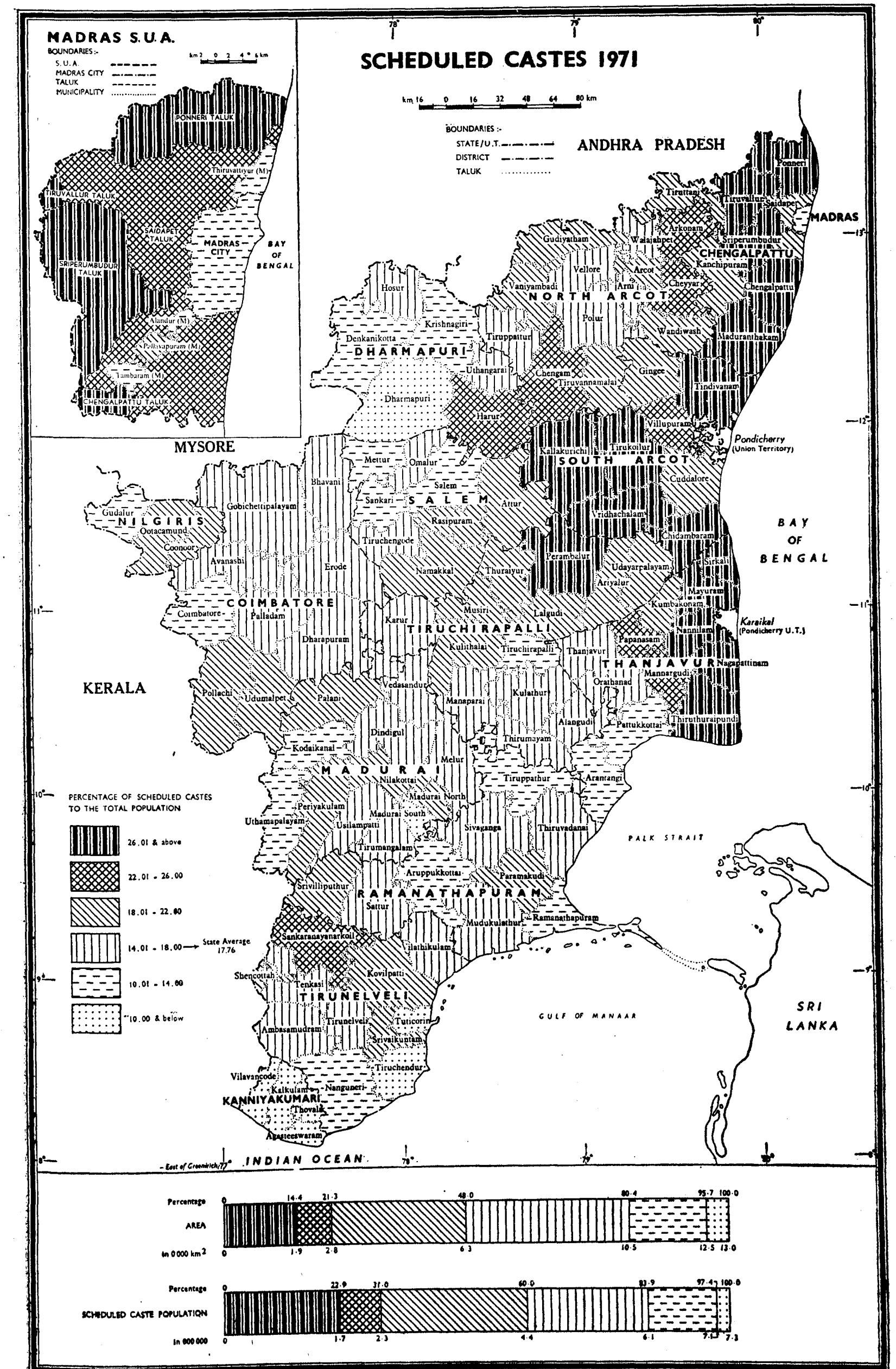
nearer the taluks with still higher ratios, the only exception being Sankaranayanarkoil in Tirunelveli district, in the south. While 33 taluks are in the range of 18.01 to 22.00 per cent, the largest number of taluks (35) lie in 14.01—18.00 per cent range. These taluks are located in nine districts. The state average ratio of 17.76 per cent of scheduled castes falls in this range. Sixteen taluks and the city district of Madras fall under the range 10.01 to 14.00 per cent. All the four taluks in the southern most district of Kanniyakumari have very low percentage of 10 and below. Tuticorin and Tiruchendur taluks of Tirunelveli district, Madurai South taluk in Madurai district and Dharmapuri taluk in Dharmapuri district have also recorded very low ratios of less than ten per cent. The lowest percentage of scheduled castes in the state is in Vilavancode taluk of Kanniyakumari district (2.20 per cent); Kalkulam taluk of the same district has also a low ratio of 3.31.

The total population, scheduled castes and their percentages for state and districts, as also the number of taluks with higher and lower percentages than for state, viz. 17.76 per cent for each district are given in the following statement.

Unit	Total Population 1971	Scheduled Castes	Percentage of Scheduled castes to total population	Number of taluks with percentage	
				more than the state average	less than the state average
1	2	3	4	5	6
TAMIL NADU	41,199,168	7,315,595	17.76	60	56
Madras	2,469,449	259,119	10.49	—	—
Chengalpattu	2,907,599	763,991	26.28	8	—
North Arcot	3,755,797	725,885	19.33	9	4
South Arcot	3,617,723	937,894	25.92	8	—
Dharmapuri	1,677,775	227,825	13.58	1	5
Salem	2,992,616	480,317	16.05	3	5
Coimbatore	4,373,178	688,271	15.74	3	6
Nilgiris	494,015	92,694	18.76	2	1
Madurai	3,938,197	587,874	14.93	4	8
Tiruchirapalli	3,848,816	690,641	17.94	8	5
Thanjavur	3,840,732	848,976	22.10	8	4
Ramanathapuram	2,860,207	459,616	16.07	2	7
Tirunelveli	3,200,515	504,956	15.78	4	7
Kanniyakumari	1,222,549	47,536	3.89	—	4

The geographical area and the scheduled caste population in the taluks falling under the six ranges are presented in the two bar diagrams given below the map. Both actual figures and percentages for these ranges are

given in these diagrams. There is an inset map also depicting the area recognised as Madras Standard Urban Area where the scheduled castes constitute 14.17 per cent of the population.



MAP 100

SCHEDULED TRIBES 1971

This map shows the proportion of scheduled tribes to total population for each taluk, according to 1971 Census. Data in respect of all the 116 taluks and Madras City (treated as a unit for purposes of this map) have been grouped into eight broad ranges and the taluks falling under each range have been hatched by choropleth as shown in the legend. Taluks with no tribal population have been left blank.

The scheduled tribe population in Tamil Nadu is 311,515 and form a very small ratio of 0.76 per cent of the total population of 41.20 million. The only taluk to have over 10 per cent of tribal population is Gudalur (10.70) in Nilgiris district. This is a hilly region with a sizable tribal population. There are two taluks in Salem district, viz. Rasipuram and Attur, one taluk (Harur) in Dharmapuri district and two in North Arcot district (Polur and Chengam) which have 5 to 10 per cent as scheduled tribes population. Ten taluks with a proportion of over 1.65 per cent of the tribes are all in hilly tracts of eastern ghat located in North Arcot and Salem district. All the taluks of Nilgiris district as also Denkanikotta taluk of Dharmapuri district and Kodaikanal taluk of Madurai district falling in the western hill ranges also fall in this higher percentage range.

There are nine taluks with 1.36 to 1.65 per cent of tribal population. These are spread out in Chengalpattu (3 taluks), Coimbatore (2 taluks), North Arcot (2 taluks), as also in a taluk each in Tiruchirapalli and Salem districts. There are four taluks in the percentage range of 1.06—1.35 and another six taluks in the range

of 0.76 to 1.05 per cent. Altogether, 34 out of the 107 taluks where scheduled tribes have been returned show a percentage above the state average. There are six taluks with 0.46 to 0.75 per cent of scheduled tribes and as in the case of other taluks in the higher ranges, discussed above, these too lie in the northern and western parts of the state.

The largest number of taluks, viz. 36 is found in the percentage range of 0.01 to 0.15 and most of these lie in the southern districts. Eight of these taluks are in Tirunelveli district, seven in Thanjavur, five in Madurai and four in Ramanathapuram districts. The next largest number of taluks are found in a single range of 0.16—0.45 and these taluks are mostly in the northern region, the exception being two taluks in Kanniyakumari district at the southern end and two in Madurai districts.

There are 13 taluks where the scheduled tribe population is less than 0.01 per cent; and four such taluks each are in Ramanathapuram and Thanjavur district. There are ten taluks which have not returned even a single individual belonging to the scheduled tribe in 1971 census. Tiruchirapalli and Tirunelveli districts have each three such taluks Madurai has two and Thanjavur and Ramanathapuram districts have one each.

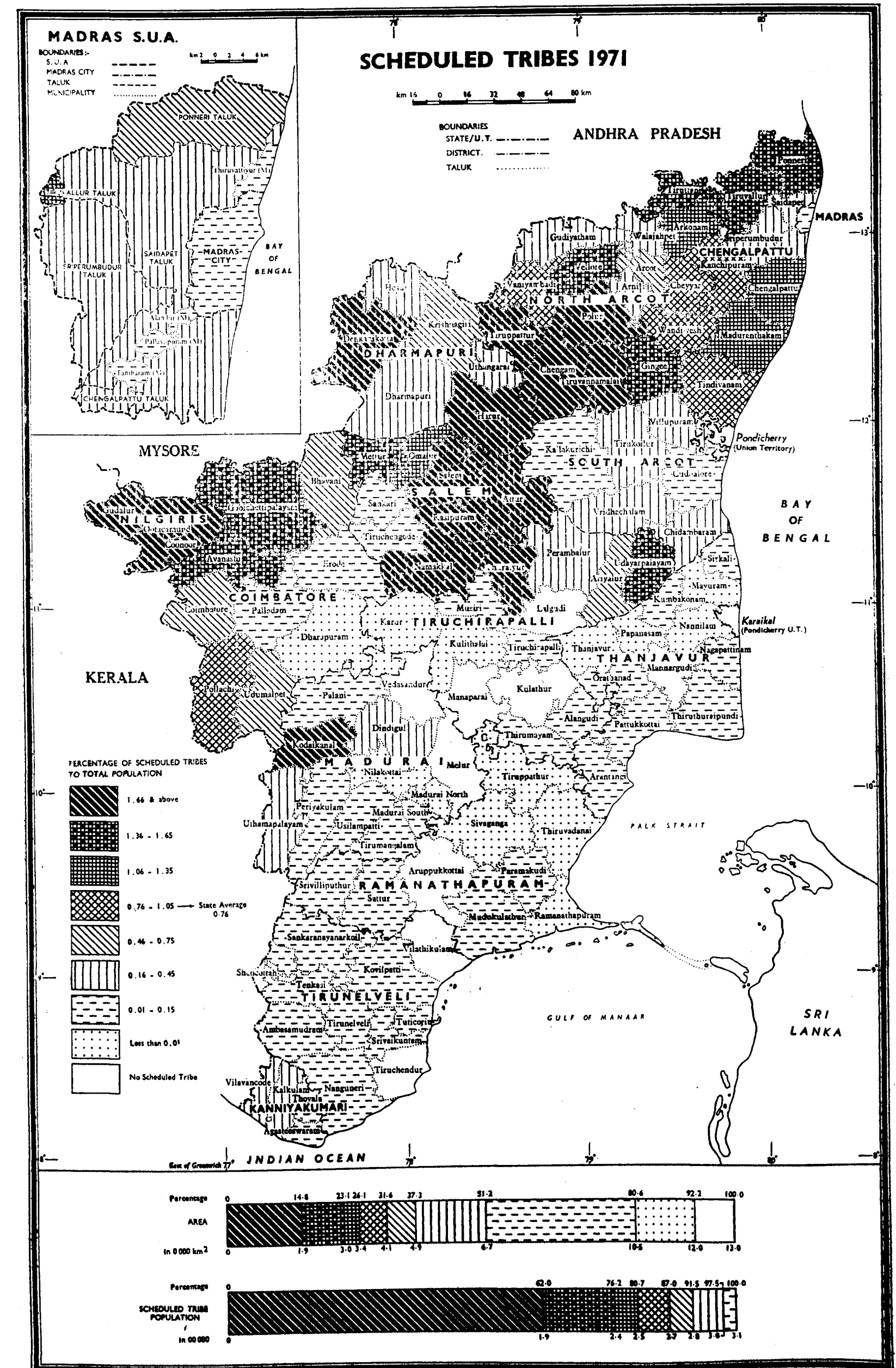
The population of scheduled tribes, their percentage to total population, and the number of taluks above and below the state average ratio are given for the districts.

Unit	Scheduled Tribe population 1971	Percentage of Scheduled Tribe population to total population	Number of taluks with percentage of Scheduled Tribe Population		No. of taluks with no scheduled tribe population
			Above the state average (of 0.76)	Below the state average	
TAMIL NADU	311,515	0.76	34	73	10
Madras*	928	0.04	—	1	—
Chengalpattu	27,189	0.94	6	2	—
North Arcot	70,727	1.88	9	4	—
South Arcot	14,105	0.39	2	6	—
Dharmapuri	30,123	1.80	2	4	—
Salem	94,383	3.15	6	2	—
Coimbatore	26,021	0.60	3	6	—
Nilgiris	19,869	4.02	3	—	—
Madurai	6,707	0.17	1	9	2
Tiruchirapalli	14,907	0.39	2	8	3
Thanjavur	1,024	0.03	—	11	1
Ramanathapuram	1,056	0.04	—	8	1
Tirunelveli	1,614	0.05	—	8	3
Kanniyakumari	2,862	0.23	—	4	—

*Taken as one taluk unit.

An inset map for Madras S.U.A. showing the percentage range for Madras city and the four municipalities and areas of four other adjoining taluks of Chengalpattu district, which form constituent units of the Madras Standard Urban Area is also presented.

The area in km² and the scheduled tribe population of the taluks falling under the nine ranges are shown in the two horizontal bar diagrams below the main map. The actual figures and percentage of each range are also indicated in a cumulative manner, from high to low order, in these diagrams.



MAP 101

TEN NUMERICALLY MAJOR SCHEDULED CASTES 1971

This map shows the distribution of ten prominent scheduled castes in the different regions of the state. The total population of scheduled castes in Tamil Nadu as per 1971 Census is 7,315,595 which form 17.76 per cent of the population. We have selected ten numerically strong castes out of the 75 different castes returned in the Census, for depiction in this map. The ten castes shown here add up to 7,029,584 and cover 96 per cent of the total scheduled caste population returned in 1971 Census. The ten scheduled castes are depicted by different symbols, each symbol representing 3,000 individuals. The data have been taken from the appendix to Census Table C-VIII Part A.

"Adi-Dravida" is the most important caste of the state. Adi Dravidas form 34.82 per cent of the total scheduled castes. Members of this caste are spread all over the state, Kanniyakumari at the southern end being the sole exception, where this caste is not scheduled. Adi-Dravida caste is predominantly found in the northern districts of South Arcot, Chengalpattu, North Arcot and Madras. Over 80 per cent of Adi Dravidas live in these districts. Over a lakh of persons belonging to this caste are found in Chidambaram, Cuddalore and Tindivanam taluks of South Arcot districts, Saidapet and Madurantakam taluks of Chengalpattu district as also Madras city.

The next major caste is Paraiyan, Parayan (Sambavar), and members of this caste (1,533,482) form 21 per cent of the total castes. Thanjavur and Tiruchirapalli districts have the largest proportions of a little over 20 per cent each of the state's 'Paraiyan' population. South Arcot, Madurai and Salem districts too have nearly ten per cent each of this caste.

"Pallans" are concentrated in the five contiguous southern districts of Madurai, Tiruchirapalli, Thanjavur, Ramanathapuram and Tirunelveli where 90 per cent of them live. A large majority of 'Chakkiliyans' are in Coimbatore district (43.88 per cent); Madurai, Salem and Tiruchirapalli districts also have a good proportion of members of this caste (over ten per cent each).

The above mentioned four individual castes put together account for about 86 per cent of the total scheduled caste population of the state.

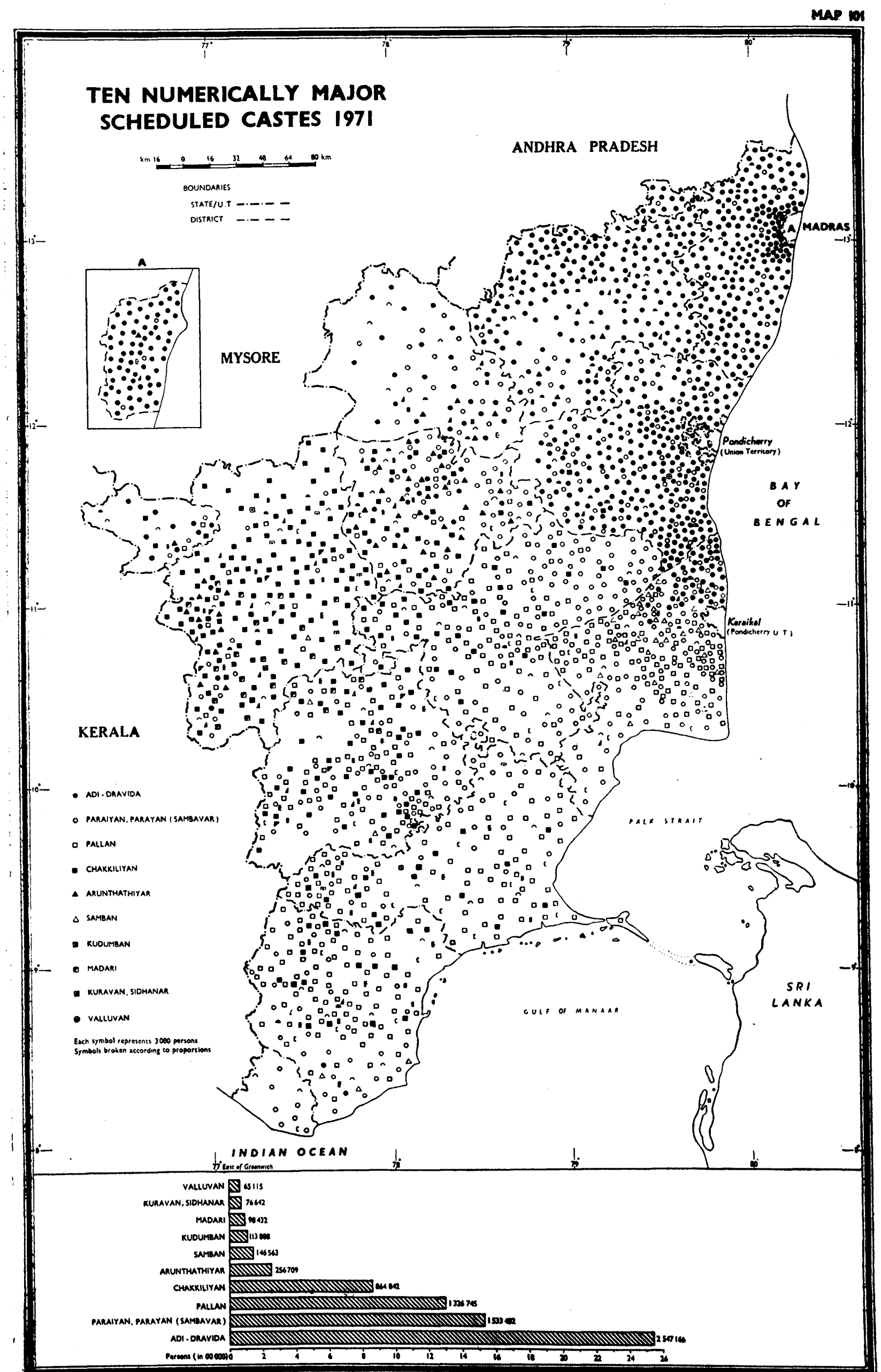
'Arunthathiyars' number 256,709 in the State Salem district is the important habitant which is inhabited by 35.74 per cent of them. Together with their numbers in the adjoining districts of South Arcot, Coimbatore and Dharmapuri, over 85 per cent of Arunthathiyars are found in this region.

'Samban' is yet another prominent scheduled caste in the state with 146,563 members and nearly 60 per cent of them are in Thanjavur district. Madurai and Tirunelveli districts two have sizable number of members of this caste. 'Kudumban' is a scheduled caste widely found in the southern districts of Madurai, Ramanathapuram and Tirunelveli. Nearly 75 per cent of Kudumbans are living in this region. 'Madari' caste members live in a large majority (69.06 per cent) in Coimbatore and also in Madurai (26.47 per cent) districts. 'Kuravan' and 'Valluvan' are also important scheduled castes occupying ninth and tenth positions in the state in the order of their numerical importance. While Kuravans are dominant in Coimbatore, Madurai and North Arcot districts, Valluvans are concentrated in the districts of South Arcot and North Arcot as also Thanjavur and Tiruchirapalli.

The ten major scheduled castes of Tamil Nadu and their percentages are presented in the following statement.

Scheduled Caste	Population	Per cent to all scheduled Caste
1	2	3
Adi-Dravida	2,547,166	34.82
Paraiyan, Parayan (Sambavar)	1,533,482	20.96
Pallan	1,326,745	18.14
Chakkiliyan	864,842	11.82
Arunthathiyar	256,709	3.51
Samban	146,563	2.00
Kudumban	113,888	1.56
Madari	98,432	1.35
Kuravan, Sidhanar	76,642	1.05
Valluvan	65,115	0.88
Others	286,011	3.91
Total	7,315,595	100.00

A horizontal bar chart showing the varying strength of the ten major scheduled castes of the state is also presented below the main map. An enlarged inset map for Madras where a large number of scheduled castes are found, is also presented to show the strength of the important scheduled castes there distinctively.



MAP 102

TEN NUMERICALLY MAJOR SCHEDULED TRIBES 1971

This map shows the distribution of the ten numerically dominant scheduled tribes enumerated in 1971 Census in the different regions of the state. Nearly 94 per cent of the state's scheduled tribe population of 311,515 are covered by these ten tribes. The distribution of the tribes is indicated by varying symbols which have been marked according to the taluks inhabited by such tribes. Each symbol represents 500 persons of the concerned tribe. Proportionate symbols have also been depicted in parts to represent figures below 500 in suitable proportions. Data on the scheduled tribes have been culled out from the appendix to the 1971 Census Table C-VIII, Part B.

'Malayali' is the most important scheduled tribe of Tamil Nadu forming 51.18 per cent of the total tribal population of the state. A large majority of this tribe is found in the hilly areas of Salem district, particularly in Salem, Attur, Rasipuram and Namakkal taluks, while sizable numbers of Malayalis are also found in North Arcot district. Harur taluk of Dharmapuri and Thuraiyur taluk of Tiruchirappalli district have also a few thousands of this tribe. Irular, the second important scheduled tribe of the state is found in all northern and western districts of the state. While Chengalpattu (with 26,436 Irulas) has nearly 30% of the State's total Irula population of 89,025, the other districts where they live in large numbers are North Arcot (20,817), South Arcot (13,475) and Coimbatore (10,368). Nilgiris, Tiruchirappalli and Dharmapuri districts too account for a few thousands of Irulas each.

Kurumans are chiefly found in Dharmapuri, North Arcot and Nilgiris districts. Large numbers of Kurumans live in Tirupattur Taluk (2,773) of North Arcot district, Denkanikotta taluk (1,477) and Krishnagiri Taluk (1,150) of Dharmapuri district and Gudalur Taluk (1,225) of Nilgiris district.

The tribe known as sholagas speaking a language which is a mixture of Tamil and Kannada are concentrated in the taluks of Gobichettipalayam (6,601) and Bhavani (1,331) of Coimbatore district situated on the border between Mysore and Tamil Nadu. Nearly 80 per cent of the Sholagas in the State are found in Gobichettipalayam taluk alone.

Nilgiris, the hilly district in the western part of the state, has almost the entire population of the scheduled tribes of 'Panian' and 'Kurumbas'. While Panians are found in Gudalur taluk, Kurumbas are chiefly found in Gudalur as well as Coonoor taluks with a smaller number in Ootacamund taluk.

Kattunayakan is a tribe spread over in small numbers in a number of districts. Their total number in the

state is 5,042. The tribe has a good strength of over 500 persons in Gudalur taluk (1,244) of Nilgiris district and Madurai South taluk (726) of Madurai district.

In the high ranges near the Kerala border, and in the taluks of Kodaikanal in Maudrai district and Udumalpet in Coimbatore district, the Pulayans, a relatively smaller hill-tribe, are found in good numbers.

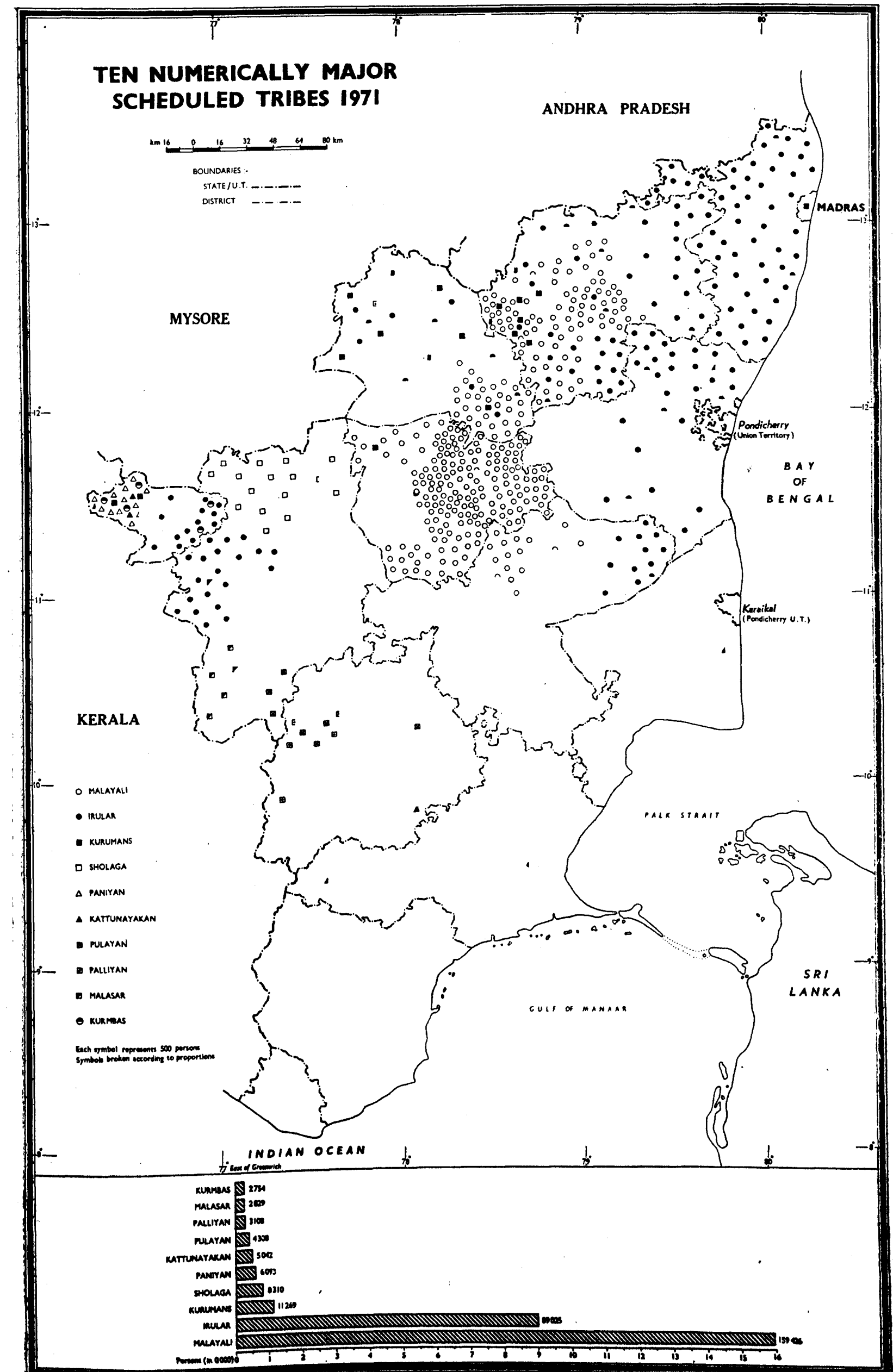
Almost the entire tribe of 'Malasar' in the State is in Pollachi taluk of Coimbatore district where they number 2,383. There are 406 persons of this tribe in Coimbatore taluk also. This tribe is not found in the other districts, Thanjavur being an exception, where 21 persons of this tribe have been returned. The tribe of Palliyan is found primarily in the taluks of Kodaikanal and Uthamapalayama in Madurai district. Four more taluks in Madurai viz. Dindigul, Palani, Periyakulam and Usilampatti and Denkanikatta taluk in Dharmapuri district also possess a few hundred members of this tribe.

The total number of members of these ten major tribes in the state and the percentage of each to the total tribal population in 1971 Census is presented in the following statement :

Name of Scheduled Tribe	Population in state	Per cent to total scheduled Tribe Population
Malayali	159,426	51.18
Irular	89,025	28.58
Kurumans	11,269	3.62
Sholaga	8,310	2.67
Paniyan	6,093	1.96
Kattunayakan	5,042	1.62
Pulayan	4,308	1.38
Palliyan	3,108	1.00
Malasar	2,829	0.91
Kurumbas	2,754	0.88
Others	19,351	6.20
All tribes	311,515*	100.00*

* Includes members of 23 other tribes and unspecified tribes

Horizontal bars representing the strength of the ten major tribes given above are also presented at the bottom of the map.



13. RELIGION

MAP 103

MAJOR RELIGIONS 1971

This map shows the districtwise population, under major religions for all the districts and state according to 1971 Census. The religions presented in the map are Hinduism, Islam and Christianity and the rest of the religions have been grouped under 'Others'.

Squares proportionate to total population have been drawn for each district. These squares are further sub-divided into one hundred equal divisions each small square representing one per cent. The proportion of Hindu, Muslim and Christian population as also 'Others' have been depicted by shading the small squares in different colours as shown in the legend of the map.

At the state level, we find that 89.02 per cent of the total population (41.20 million) are Hindus. The predominant religion in every district of the state is Hinduism. The highest proportion of Hindus is in Salem district where they form 96.62 per cent. Dharmapuri district which was bifurcated from Salem district during 1961-71, has the second highest percentage of Hindu population (94.28). There are five other districts which have recorded over 90 per cent of the population as Hindus and these are Coimbatore, Chengalpattu, South Arcot, Madurai and North Arcot. Madras City, which is a big metropolis area and a cosmopolitan city has 89.09 per cent of its population as Hindus. The lowest percentage of Hindus is found in Kanniyakumari district (56.81) situated in the southern extremity. The mountainous district of Nilgiris on the west has also a comparatively lower ratio of Hindu population. Eight out of the 14 districts of the state have a higher ratio of Hindus than the state average (89.02).

Muslims do not exceed ten per cent of the population in any district. The highest percentage of Muslims (9.66) is recorded in the Nilgiris district, followed by Madras (8.51) and Tirunelveli (7.02) districts. Very low percentages of Muslims are found in Salem (2.06) and Chengalpattu (2.86) districts.

Christians also form a low proportion (5.75) at the state level. Kanniyakumari district reveals the highest percentage (38.90) of its population as Christians. It is the only district to have over one third of its population as Christians. The two other districts which have over ten per cent of Christians are Nilgiris (13.62) and Tirunelveli (12.51). Madras city has about six per cent of its population as Christians. On the other hand, Christians form the least percentage of about one per cent in both Salem and Dharmapuri districts.

Other religions, besides the above three, form a meagre percentage (0.12) of state's population. In all the districts, over 99 per cent of the population comprised Hindus, Muslims and Christians. In Tirunelveli district, practically the entire population is covered by these three major religions as persons professing other religions and persuasions form only a negligible ratio. Madras, probably because of its cosmopolitan character has the highest percentage of 'Other' religions with 0.78, per cent : and 0.69 per cent out of this are Jains. North Arcot and Nilgiris districts have 0.27 per cent each of their respective, population under 'other' religions.

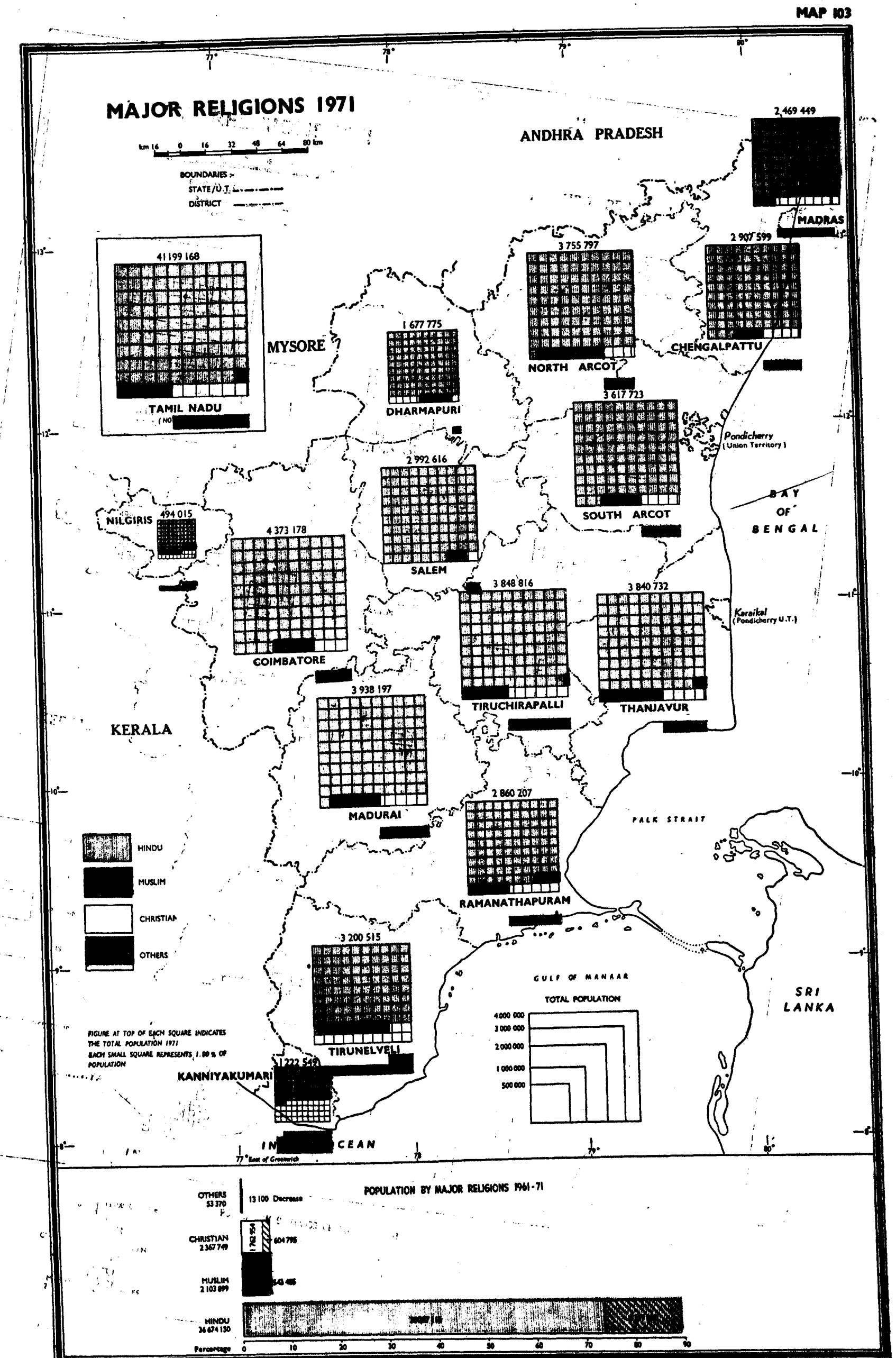
Data on population and its percentage distribution among the religions are presented below for state and districts :

Unit	Population 1971	Percentage of Population as			
		Hindus	Muslims	Christians	Other religions
1	2	3	4	5	6
TAMIL NADU	41,199,168	89.02	5.11	5.75	0.12
Madras	2,469,449	84.09	8.51	6.62	0.78
Chengalpattu	2,907,599	92.89	2.86	4.09	0.16
North Arcot	3,755,797	90.58	6.51	2.64	0.27
South Arcot	3,617,723	92.49	3.66	3.65	0.20
Dharmapuri	1,677,775	94.28	4.60	1.07	0.05
Salem	2,992,616	96.62	2.06	1.30	0.02
Coimbatore	4,373,178	93.42	3.48	3.05	0.05
Nilgiris	494,015	76.45	9.66	13.62	0.27
Madurai	3,938,197	90.88	4.54	4.57	0.01
Tiruchirapalli	3,848,816	89.63	4.57	5.75	0.05
Thanjavur	3,840,732	88.91	6.88	4.11	0.10
Ramanathapuram	2,860,207	87.36	6.98	5.65	0.01
Tirunelveli	3,200,515	80.47	7.02	12.51	N
Kanniyakumari	1,222,549	56.81	4.28	38.90	0.01

N — Negligible.

The horizontal bar diagrams below the main map, depict the population of Hindus, Muslims and Christians in 1961 and their increase during 1961-71. In the case

of 'Other' religions, it may be observed, the figure has declined in 1971 census from that recorded in the earlier census.



14. EDUCATION

MAP 104
LITERACY 1971

Variations in the literacy ratios of the districts as revealed in the 1971 census are depicted in this map. As children of age-groups 0-4 have been considered as illiterate in census, the population under these ages has been excluded for working out the ratios.

The literate population is divided by the total population excluding those in age group 0-4. This figure is multiplied by 100 and the result is shown as literacy percentage. A literate in the 1971 census was one "who can both read and write understanding in any language" without any stipulation of formal education or pass in any minimum educational standard. The literacy ratios have been grouped in six ranges for the map.

The two districts of highest literacy in Tamil Nadu are Madras and Kanniyakumari, where over 65 per cent are literates. Madras, being the capital city of the state, with a wide range of educational facilities, has a literacy rate of 70.41 per cent. Kanniyakumari, the southern most district which belonged to the erstwhile Travancore-Cochin state, is also an area of high literacy (66.96). The districts of Nilgiris and Tirunelveli also have over 50 per cent as literates. The other districts showing higher ratios of literacy over that of the state (45.40) are, in the descending order of percentage, Madurai, Ramanathapuram, Chengalpattu and Thanjavur.

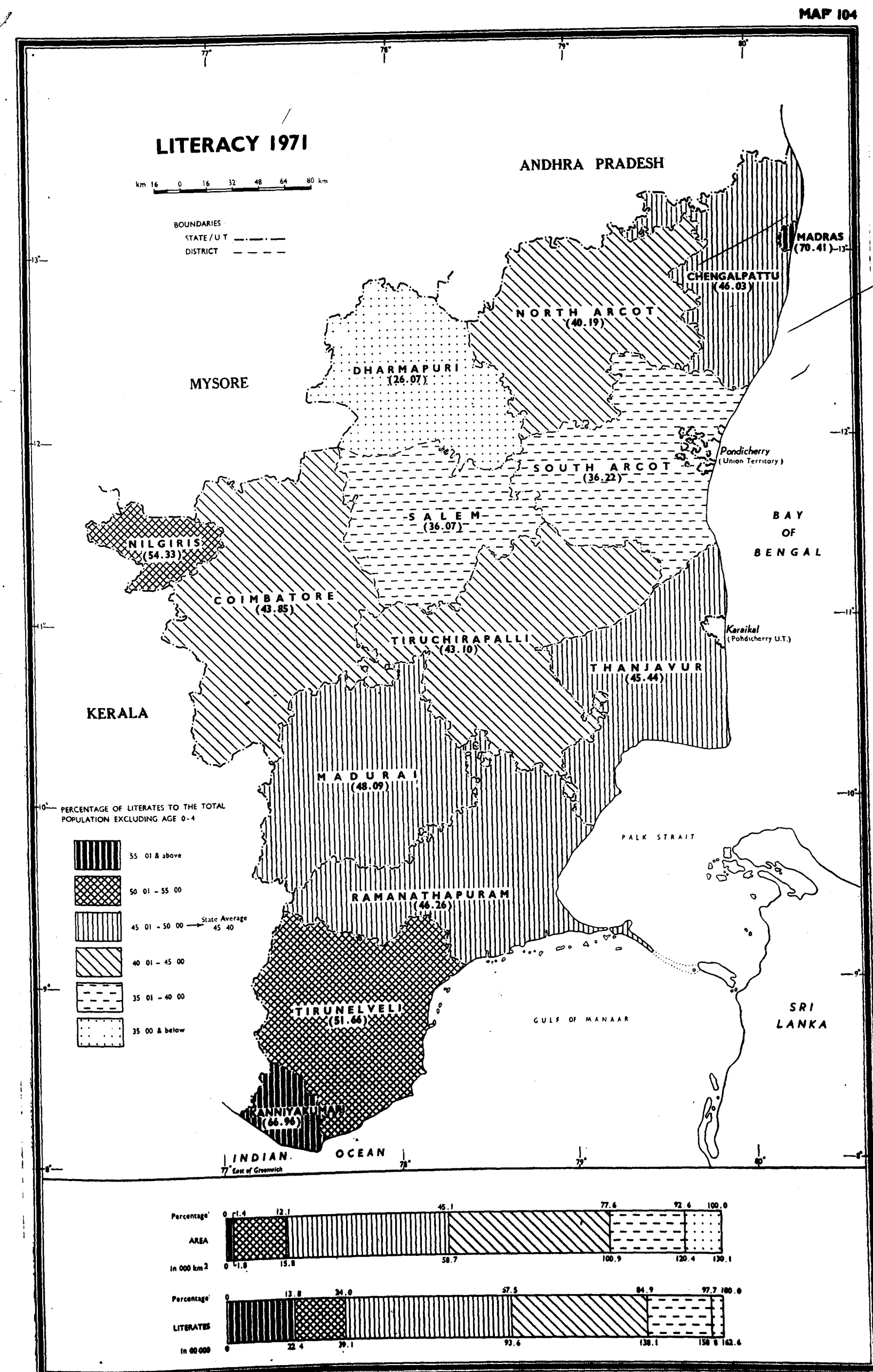
There are six districts which show a lower ratio than the state's. The least literate region is Dharmapuri (26.07).

Among the states of the Indian Union, Tamil Nadu has a ratio of literates (45.40) next only to that of Kerala (69.75).

The population of the state and of each district excluding age-groups 0-4, the literate population and the ratio of literacy are presented below.

Unit	Population of 5 and above age	Total literate Population	Literacy ratio
1	2	3	4
TAMIL NADU	35,807,022	16,256,393	45.40
Madras	2,175,030	1,531,406	70.41
Chengalpattu	2,509,432	1,155,136	46.03
North Arcot	3,239,806	1,301,921	40.19
South Arcot	3,110,078	1,126,397	36.22
Dharmapuri	1,436,214	374,453	26.07
Salem	2,631,119	949,002	36.07
Coimbatore	3,879,376	1,701,088	43.85
Nilgiris	427,683	232,342	54.33
Madurai	3,399,744	1,634,860	48.09
Tiruchirapalli	3,349,562	1,443,554	43.10
Thanjavur	3,352,028	1,523,120	45.44
Ramanathapuram	2,456,982	1,136,629	46.26
Tirunelveli	2,777,194	1,434,809	51.66
Kanniyakumari	1,062,774	711,676	66.96

The two horizontal bar diagrams at the bottom of the map indicate the territorial distribution of the six ranges of literacy and the actual number of literates in these ranges shown in the main map, in cumulative terms.



CHANGE IN LITERACY 1961-71

The variation in the effective literacy percentage in 1971 when compared with the corresponding percentage in 1961 is depicted at the district level in this map. For purposes of effective literacy ratio, children of the age-group of 0-4 have been excluded. In all the districts of the State, the literacy percentage in 1971 has registered a good increase when compared with 1961 rate. The variations have all been on the positive side of 'gain' and no district has shown any 'loss' in literacy rate in the current Census. The districts have all been brought under six broad ranges under 'gain' for representation in this map.

The districts of Chengalpattu and Nilgiris have made a very impressive gain of 13.54 and 12.23 in their literacy percentage during the 1961-71 decade, as against 9.01 per cent of the state's figure. In actual numbers, the literate population of Chengalpattu has increased from 0.61 million in 1961 to 1.16 million in 1971, Chengalpattu district encircles Madras with many industrial suburbs, and is a fast growing region. The hilly district of Nilgiris has made great strides in urbanisation and literacy in the last decade. The other districts which have registered a gain of more than 10 points in the literary per cent, are North Arcot, Kannyakumari and Salem. The district with the least increase is Madras

(1.86). As the ratio of literates was already high (68.55 per cent in 1961) in this metropolitan city, the highest among the districts (Madras city and district being coterminous) further increase in 1971 (70.41 per cent) has only been marginal. The coastal districts of South Arcot and Thanjavur with variations of only 5.05 and 6.81 have the least decadal increase in literacy rate. These districts are predominantly agricultural in character. The districts of Coimbatore, Madurai, Tiruchirapalli and Ramanathapuram which are all contiguous in the central region of the State have shown gains which are more or less uniform ranging from 8.50 to 9.50 per cent.

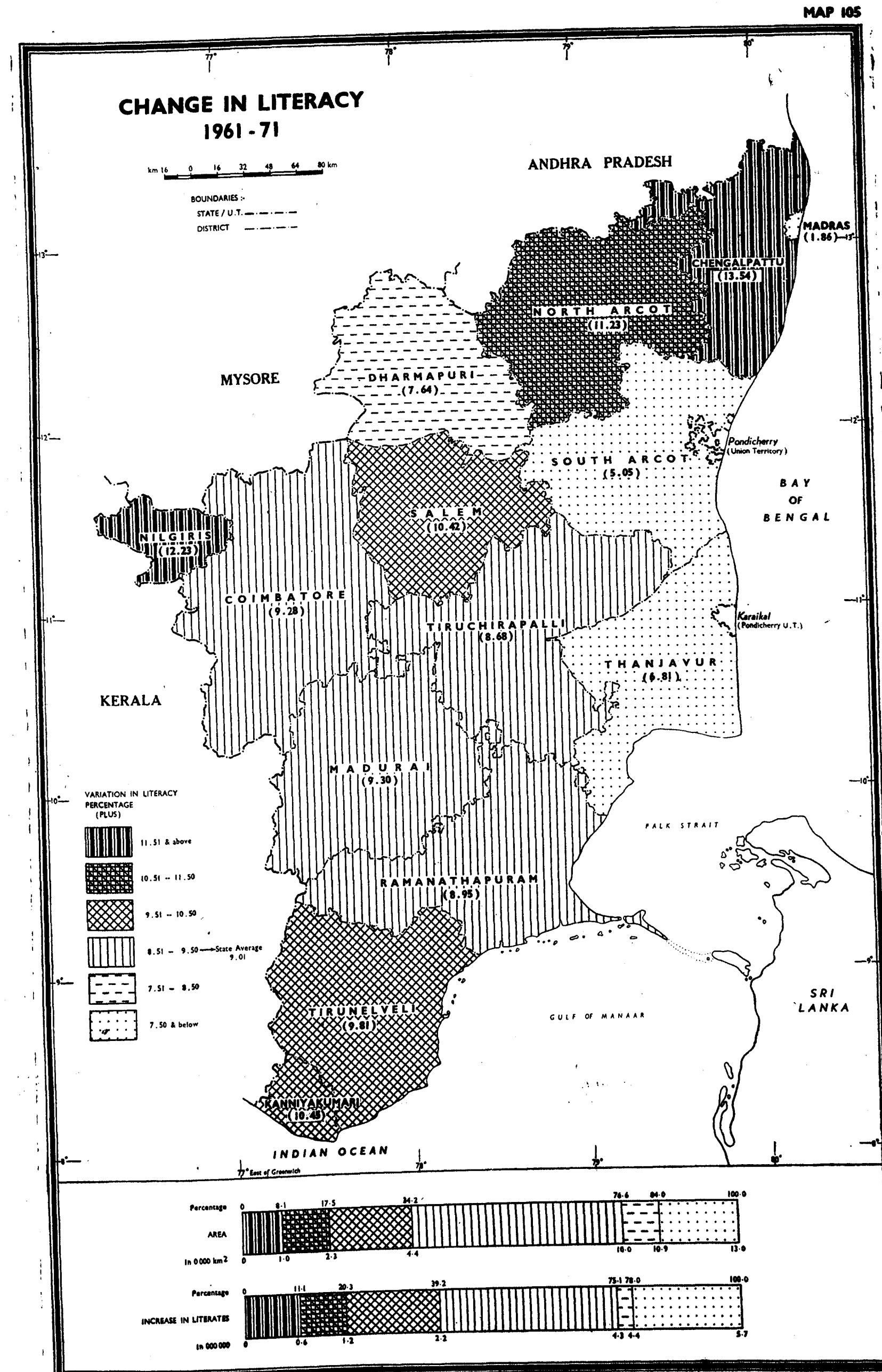
The total number of literates and educated persons in the State has increased from 10.58 million to 16.26 million during 1961-71. There are over 1.50 million literate and educated persons in each of the districts of Madras, Coimbatore, Madurai and Thanjavur in 1971. In the districts of Madras, Chengalpattu, Coimbatore and Madurai the largest additions to the literate population of over 500,000 in each district is seen.

The total literates as at 1971 in the state and districts, the literacy percentages in 1971, 1961 and the gain in the rate in 1961-71 are presented below :

Unit	Literate and educated persons 1971	Literacy per cent (Excluding 0-4 ages)		Variation (gain in literacy per cent) 1961-71
		1971	1961	
1	2	3	4	5
TAMIL NADU	.. 16,256,393	45.40	36.39	9.01
Madras	.. 1,531,406	70.41	68.55	1.86
Chengalpattu	.. 1,155,136	46.03	32.49	13.54
North Arcot	.. 1,301,921	40.19	28.96	11.23
South Arcot	.. 1,126,397	36.22	31.17	5.05
Dharmapuri	.. 374,453	26.07	18.43	7.64
Salem	.. 949,002	36.07	25.65	10.42
Coimbatore	.. 1,701,088	43.85	34.57	9.28
Nilgiris	.. 232,342	54.33	42.10	12.23
Madurai	.. 1,634,860	48.09	38.79	9.30
Tiruchirapalli	.. 1,443,554	43.10	34.42	8.68
Thanjavur	.. 1,523,120	45.44	38.63	6.81
Ramanathapuram	.. 1,136,629	46.26	37.31	8.95
Tirunelveli	.. 1,434,809	51.66	41.85	9.81
Kannyakumari	.. 711,676	66.96	56.51	10.45

The area and increase in the literate population in 1971 in the six ranges are shown in the bar diagrams at the bottom of the map. The cumulative percentages

and actual figures are respectively indicated above and below the bars.



MAP 106

MALE LITERACY 1971

This map portrays the proportion of male literates (excluding those of age-group 0-4) with rural and urban break up at district level in 1971.

The male literacy rates are grouped into six ranges and districts under various ranges have been depicted by choropleth as shown in the legends on the map. Rural and urban literacy rates of male population are further represented by two side lapping bars in each district.

As in the case of general literacy rates, Madras and Kanniyakumari districts are leading in male literacy with percentages of 79.79 and 73.74 of the male population respectively. The hill district of Nilgiris and Tirunelveli in the south also have high literacy percentages among males. Tamil Nadu as a whole, shows 59.55 per cent of male literates. With only 36.92 per cent, Dharmapuri district has the lowest rates. Salem (48.55%) and South Arcot (51.15%) districts too have very low rates.

It may be observed from the map that barring the metropolitan city of Madras which shows the highest rate; the high ratio ranges lie in the southern districts of Kanniyakumari, Tirunelveli, Ramanathapuram, Madurai and Thanjavur. These alongwith Nilgiris and Chengal-

pattu are the eight districts which have higher literacy rates than the state average.

Rural male literacy percentage for Tamil Nadu is 52.06 as against the urban male literacy percentage (76.33). In the urban sector, Kanniyakumari and Madras lead with 82.02 and 79.79 per cents. The state average of urban literacy rates is itself very high, and this has been exceeded by the districts of Kanniyakumari, Madras, Tiruchirapalli, Madurai and Ramanathapuram. Salem and Dharmapuri districts have lower percentages of 67.45 and 70.24 respectively.

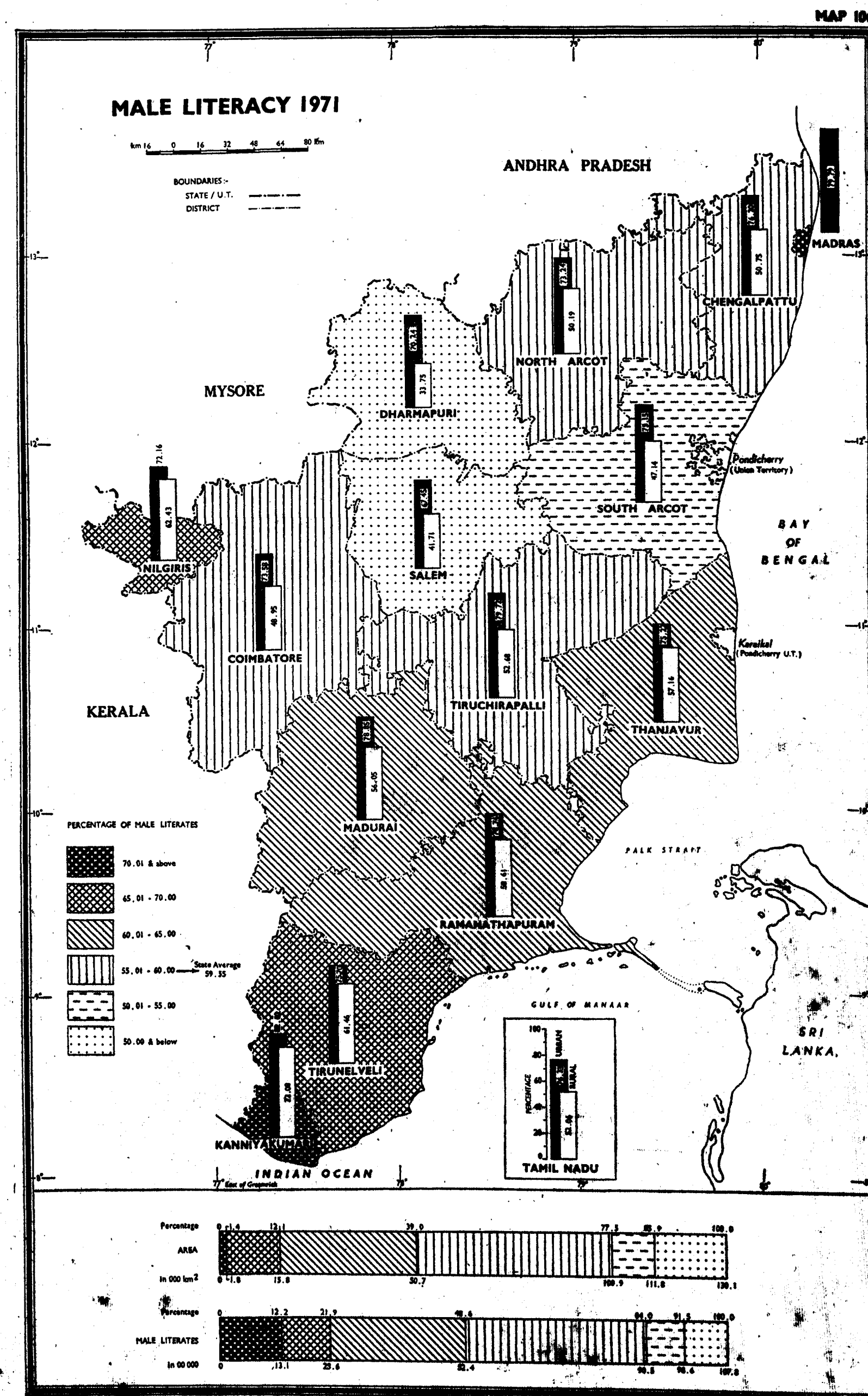
Among the rural proportions, the hill districts of Nilgiris and the southern districts of Madurai, Tiruchirapalli, Thanjavur, Ramanathapuram, Tirunelveli and Kanniyakumari are prominent and their proportions are above the state average. The southern districts show prominence in male literacy as compared to the northern districts.

The male literate population in the districts along with the proportion of male literates to total male population (of five years and over) in total, rural and urban areas of each district are given below.

Unit	Male literates	Percentage of Male literates to male population of five and more ages		
		Total	Rural	Urban
1	2	3	4	5
TAMIL NADU	10,783,783	59.55	52.06	76.33
Madras	915,488	79.79	—	79.79
Chengalpattu	772,791	59.77	50.75	76.20
North Arcot	906,028	55.04	50.19	73.24
South Arcot	809,388	51.15	47.14	75.15
Dharmapuri	269,841	36.92	33.75	70.24
Salem	650,511	48.55	41.71	67.45
Coimbatore	1,147,232	57.80	48.95	73.58
Nilgiris	148,613	67.28	62.43	72.16
Madurai	1,091,901	63.85	56.05	78.85
Tiruchirapalli	989,802	58.85	52.68	79.72
Thanjavur	1,022,678	60.87	57.16	75.22
Ramanathapuram	766,476	63.99	58.61	78.74
Tirunelveli	895,581	66.12	61.46	75.70
Kanniyakumari	397,453	73.74	72.08	82.02

In the two horizontal bar diagrams, the area and the 1971 male literates falling in the six ranges are shown. The percentages in the ranges are indicated at the top

and the actual figures are given at the bottom of the bar diagram, in cumulative terms, for the ranges from high to low level of literacy.



MAP 107

CHANGE IN MALE LITERACY 1961-71

The percentage variation in the male literacy in 1971 compared with similar rate of 1961 is shown in this map. Due to considerable expansion of educational facilities in the last decade and the consequent increase in literate population, only a positive variation or gain in the 1971 literacy is noticed in all the districts. For purposes of this map, only the effective literacy rate of the literates to population of 5 years and above has been taken into consideration. The districts have all been grouped under six convenient ranges for presentation in this map.

The increase in male literacy in 1971 in the various districts ranges from 0.03 in Madras City to 13.14 per cent in Chengalpattu district. For the state as a whole, the 1971 male literacy percentage of 59.55 is higher than that of 1961 by 7.96. Eight of the fourteen districts have recorded higher increase over the state average. The two districts adjoining the city of Madras, viz. Chengalpattu and North Arcot have registered the highest increase of over 11 points over the literacy ratio of 1961. The male literacy in Madras in 1971 is 79.79 per cent a little higher than the 1961 figure of 79.76 by 0.03. It is obvious that increase in 1971 has been marginal in Madras. Salem and Nilgiris districts have also improved

their male literacy percentages in the decade by a little over 10 points. The coastal and predominantly agricultural districts of South Arcot and Thanjavur have recorded comparatively little development in literacy. It shows less than 5 points over their 1961 literacy rate. The districts of Tiruchirapalli, Madurai and Ramanathapuram which are all contiguous have gained in male literacy rates by 7 to 8 points in the last ten years. The districts of Kanniyakumari has already reached a high level of male literacy where the variation has occurred at 8.24 per cent. This district has in 1971 the second highest effective male literacy rate of 73.74 per cent, next only to the district of Madras.

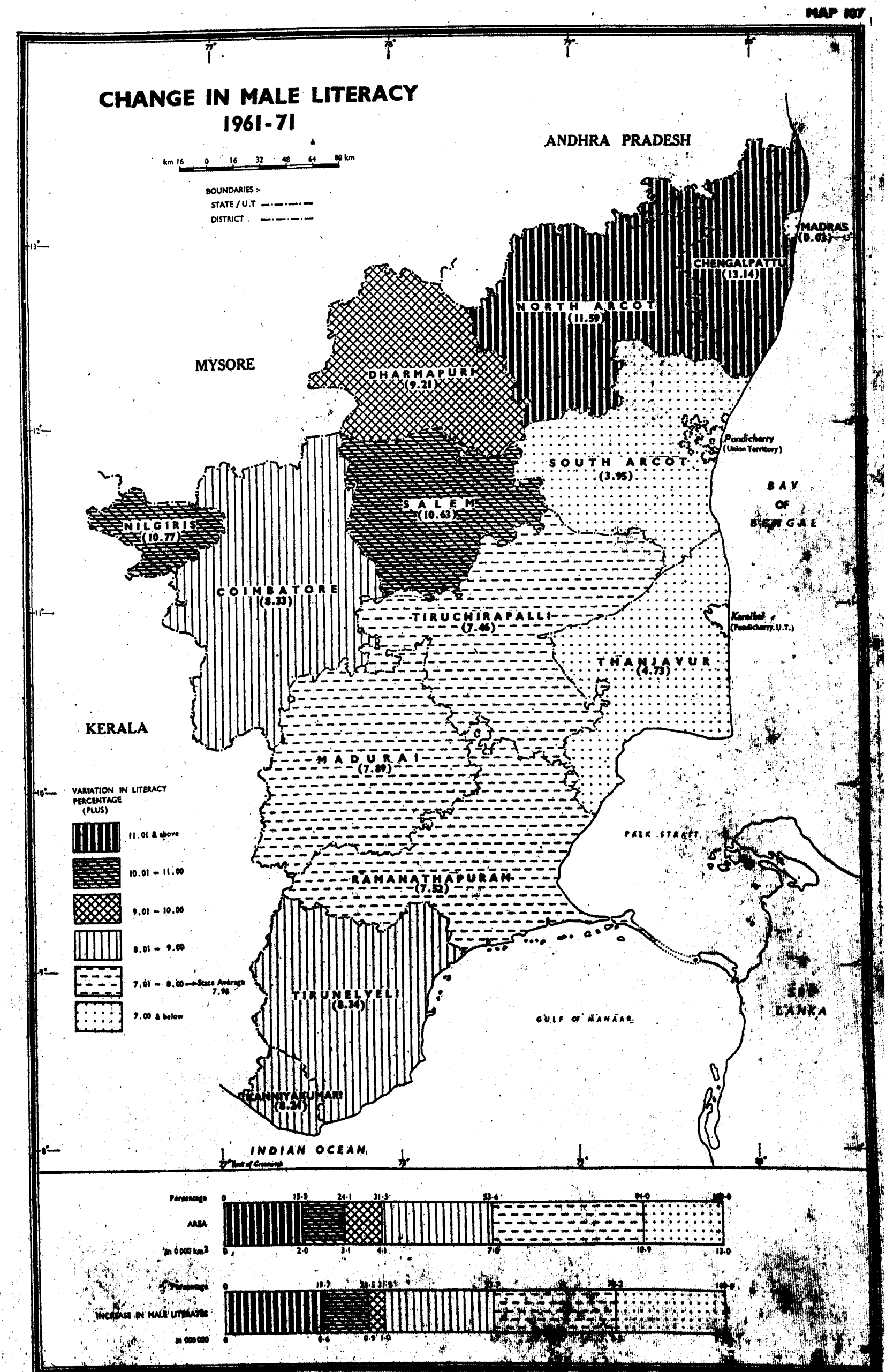
During the decade 1961-71, there had been an increase of 3.25 million male literates in the State and nearly one million of them have been returned in the five districts of Chengalpattu, North Arcot, Salem, Nilgiris and Dharmapuri, which have shown comparatively higher increase in the literacy ratios.

The literate population of the districts in 1971 along with the effective male literacy rates of 1971 and 1961 and their variations are presented below :

Unit	Male literates 1971	Male literacy per cent (excluding 0-4 ages)		Variation gain in per cent 1961-71
		1971	1961	
1	2	3	4	5
TAMIL NADU	.. 10,783,783	59.55	51.59	7.96
Madras	.. 915,488	79.79	79.76	0.03
Chengalpattu	.. 772,791	59.77	46.63	13.14
North Arcot	.. 906,028	55.04	43.45	11.59
South Arcot	.. 809,388	51.15	47.20	3.95
Dharmapuri	.. 269,841	36.92	27.71	9.21
Salem	.. 650,511	48.55	37.92	10.63
Coimbatore	.. 1,147,232	57.80	49.47	8.33
Nilgiris	.. 148,613	67.28	56.51	10.77
Madurai	.. 1,091,901	63.85	55.96	7.89
Tiruchirapalli	.. 989,802	58.85	51.39	7.46
Thanjavur	.. 1,022,678	60.87	56.14	4.73
Ramanathapuram	.. 766,476	63.99	56.47	7.52
Tirunelveli	.. 895,581	66.12	57.78	8.34
Kanniyakumari	.. 397,453	73.74	65.50	8.24

The area and the number of literates added in the 1961-71 decade of the districts in the six ranges, from high to low, are shown in actual figures and percentages

in a cumulative manner in the two horizontal bar diagrams drawn below the map.



MAP 108

FEMALE LITERACY 1971

This map portrays the proportion of female literates (excluding those of age-group 0-4) with rural and urban break up at district level in 1971.

The female literacy rates are grouped into six ranges and districts under various ranges have been depicted by choropleth as shown in the legends on the map. Rural and urban literacy rates of female population are further represented by two side lapping bars in each district.

Higher rates of female literacy are found in Madras (59.94%) and Kanniyakumari (59.99%) as against the state average of 30.92 per cent. Nilgiris (40.49%) is the only other district having over 40 per cent female literacy. Apart from the above three, Tirunelveli, Madurai and Chengalpattu have higher rates than state average. It is significant that the districts with less than 25 per cent female literacy are all contiguous units in the north (Dharmapuri, Salem, North Arcot and South Arcot) and also around the Madras and Chengalpattu districts. The districts with 25 to 30 per cent literacy level lie in the central part of the state and are nearly contiguous, Madurai being the exception with a higher level of female literacy rate.

The urban female literacy percentage in the state is 52.11 as against a low 21.88 in the rural areas. Kanniyakumari district stands foremost in female literacy, both in rural (58.09%) and urban (69.30%) areas. In the rural sector, Kanniyakumari, Nilgiris and Tirunelveli districts show more than 32 per cent rate; all other districts have less than 25 per cent of female literates. The vast tract in the north and north-west (all contiguous and adjoining districts) has a poor female literacy rates ranging from 10 to 20 per cent in rural areas. The southern districts indicate comparatively higher proportions.

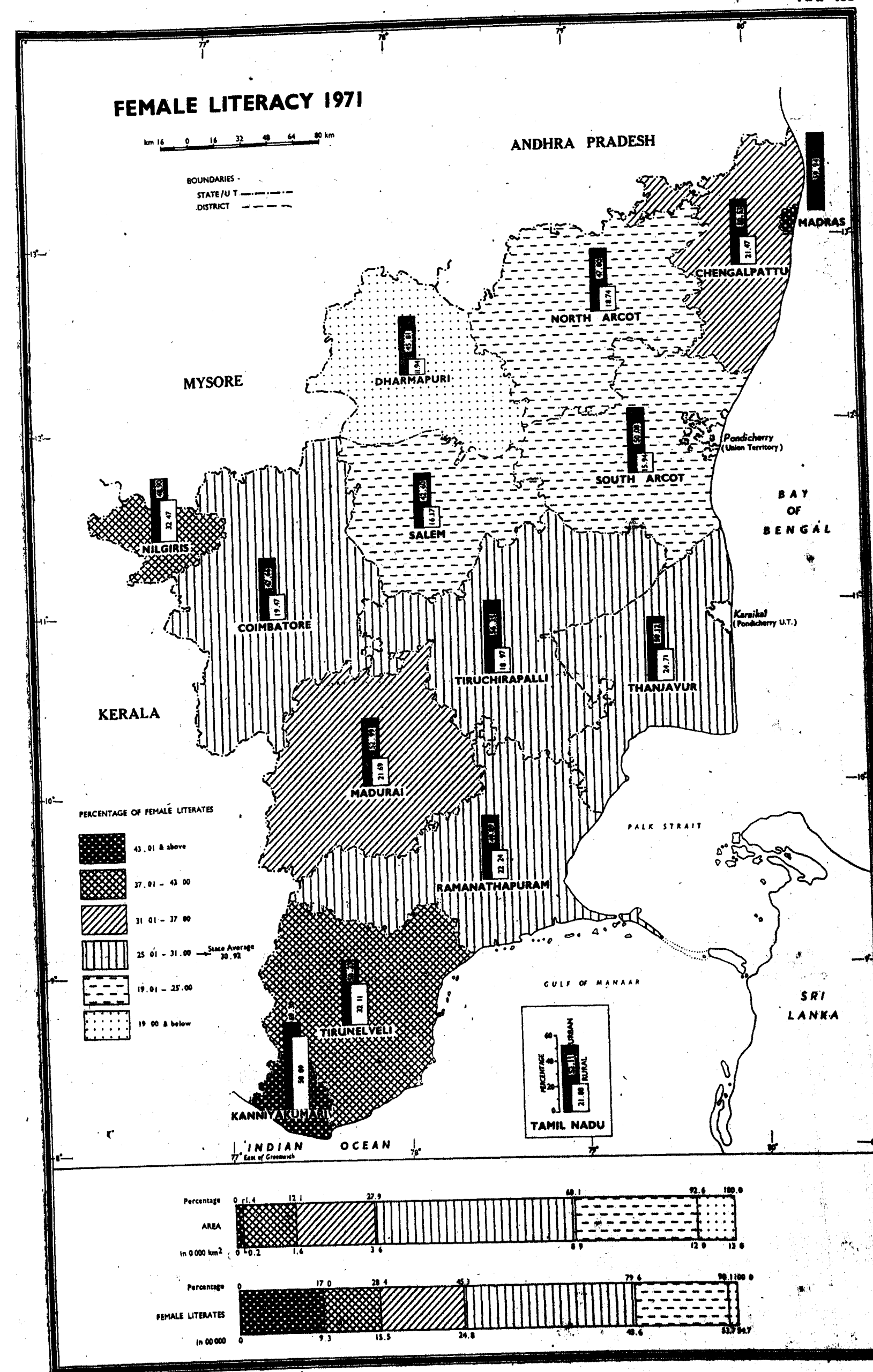
In urban areas, the state percentage of 52.11 for female literacy is exceeded only by Kanniyakumari, Madras, Madurai and Tiruchirapalli. The remaining ten districts have lower rates. The districts of Salem (42.60%) and Dharmapuri (45.81%) have very low rates compared to other districts.

Data on the number of female literates in the district along with the effective female literacy rates for areas as also by rural and urban break-up are shown in the following table.

Unit	Female literates	Percentage of female literates to female population of five and more ages		
		Total	Rural	Urban
1	2	3	4	5
TAMIL NADU	5,472,610	30.92	21.88	52.11
Madras	615,918	59.94		59.94
Chengalpattu	382,345	31.43	21.47	50.53
North Arcot	395,893	24.84	18.74	47.80
South Arcot	317,009	20.75	15.94	50.08
Dharmapuri	104,612	14.83	11.94	45.81
Salem	298,491	23.11	16.17	42.60
Coimbatore	553,856	29.24	19.47	47.66
Nilgiris	83,729	40.49	32.47	48.90
Madurai	542,959	32.14	21.69	52.99
Tiruchirapalli	453,752	27.21	18.97	56.35
Thanjavur	500,442	29.93	24.71	50.12
Ramanathapuram	370,153	29.40	22.24	49.89
Tirunelveli	539,228	37.90	32.11	50.23
Kanniyakumari	314,223	59.99	58.09	69.30

The two bar diagrams at the bottom depict the area and 1971 female literates with divisions for the six ranges. The cumulative figures and percentages from

the high to low ranges are shown at the bottom a upper sides of the bar diagrams.



MAP 109

CHANGE IN FEMALE LITERACY 1961-71

This map indicates district-wise variations in the effective female literacy percentage in 1971 as compared with 1961. This map is based on similar technique as adopted in map number 107. Here too, the variations have all been positive with a gain in all districts. The extent of gain in the literacy percentage during the decade is more in the case of females than for males in many of the districts, the exceptions being North Arcot, Dharmapuri and Salem. The variations in the districts are presented under six broad ranges in the map.

The female literacy variation in the districts during 1961-71 extends from 4.00 in Madras to 14.42 in Nilgiris as against the state's average gain of 9.86. Nilgiris district has registered the highest increase in the literacy rate of females in the decade. The districts of Chengalpattu, with a gain of 13.81 and Kanniyakumari with 12.65 have also recorded substantial increase in female literacy ratios. Nine of the 14 districts have higher variations than the state average.

The districts with lower gains in female literacy in the last decade are Madras, South Arcot and Dharmapuri. The districts of Dharmapuri and South Arcot have shown very low effective literacy ratios in 1971 compared to other districts. These districts have also very poor urban population and remains at a lower level of industrialisation. Consequently no spurt in female education is noticeable.

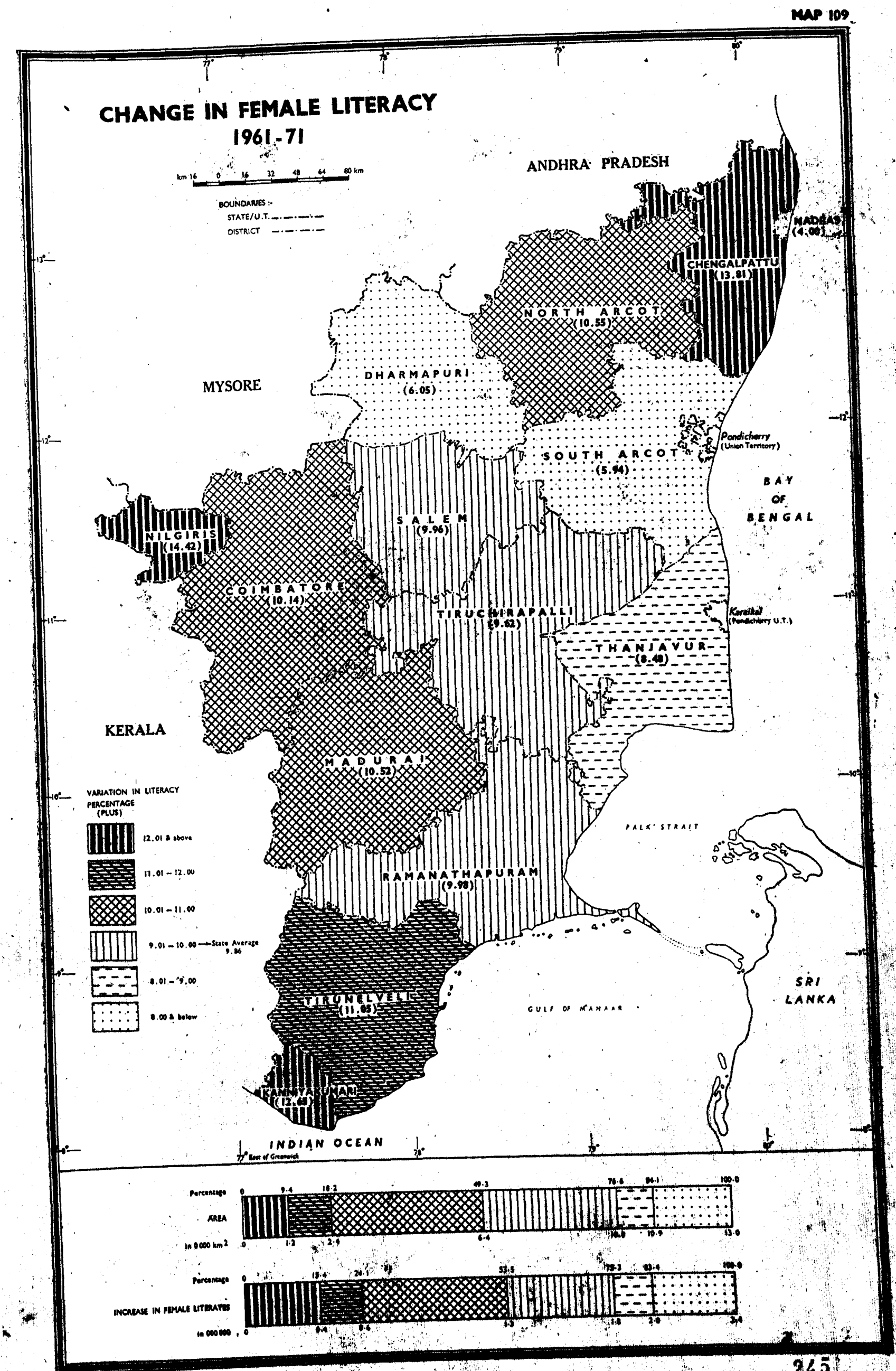
The total female literates in the State have increased by 2.46 million during 1961-71 (3.01 million in 1961 and 5.47 million in 1971). The largest number of female literates, viz. 615,918 is in Madras followed by coimbatore with units 553,856 and Madurai with 542,959. The districts of Tirunelveli and Thanjavur also have each over half-a-million female literates.

The female literates of 1971 and the effective literacy rates among females in 1971 and 1961, along with the variations in literacy per cent are given below for State and districts.

Unit	Female literates 1971	Female literacy per cent (excluding 0-4 ages)		Variation gain in per cent 1961-71
		1971	1961	
1	2	3	4	5
TAMIL NADU	5,472,610	30.92	21.06	9.86
Madras	615,918	59.94	55.94	4.00
Chengalpattu	382,345	31.43	17.62	13.81
North Arcot	395,893	24.84	14.29	10.55
South Arcot	317,009	20.75	14.81	5.94
Dharmapuri	104,612	14.83	8.78	6.05
Salem	298,491	23.11	13.15	9.96
Coimbatore	553,856	29.24	19.10	10.14
Nilgiris	83,729	40.49	26.07	14.42
Madurai	542,959	32.14	21.62	10.52
Tiruchirapalli	453,752	27.21	17.59	9.62
Thanjavur	500,442	29.93	21.45	8.48
Ramanathapuram	370,153	29.40	19.42	9.98
Tirunelveli	539,228	37.90	26.85	11.05
Kanniyakumari	314,223	59.99	47.34	12.65

The area of the districts in km² in the six ranges from high to low gain in per cent and the actual increase in female literates during 1961-71 are shown in actual

figures and percentages in a cumulative manner in the two bar diagrams shown below the map.



MAP 110

LITERATES PER 1,000 OF POPULATION IN AGE 5-14 OVER LITERATES PER 1,000 OF POPULATION IN AGE 15-34 IN RURAL AREAS 1971

This map shows the excess/shortfall in the ratio of literates in the age-group 5-14 as compared to similar ratio in the age-group 15-34 in rural areas. Due to increase in educational opportunities and the realisation of the need for education in recent years, we find that even in rural parts the literacy ratio is generally higher in the younger age-group of 5-14 than in the older age-group of 15-34. The majority of districts have recorded in 1971 an excess of literacy percentage in the age-group 5-14 over that in the age-group 15-34. Three districts have shown a higher literacy ratio in 15-34 and thus show a negative trend when compared to literacy ratio for 5-14 age-group. All the districts except Madras which is fully urban have been grouped into five broad ranges for presentation, 4 ranges for excess and one for shortfall.

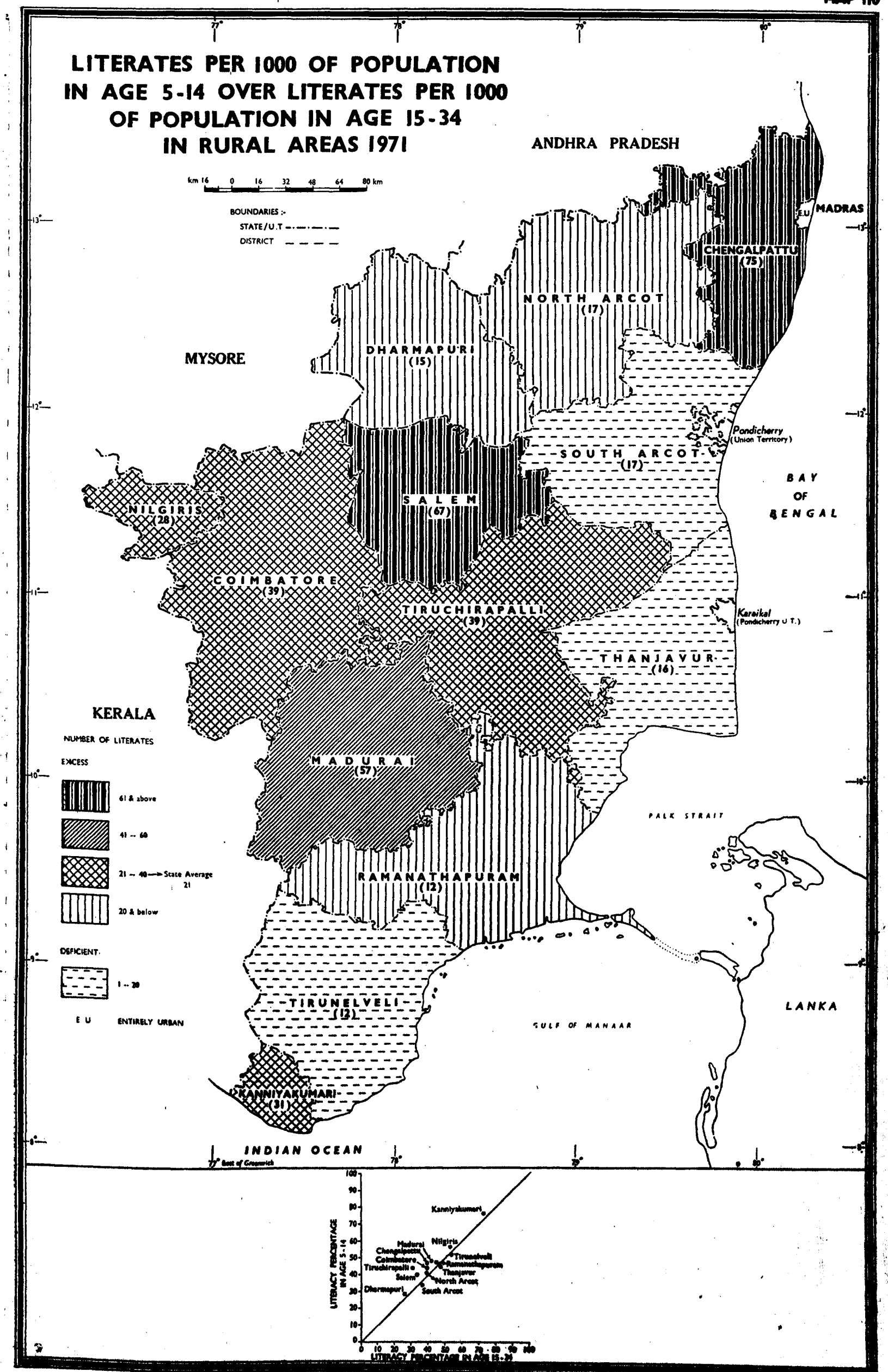
For the state as a whole, we find an excess of 21 literates per 1,000 in age-group 5-14 over that in 15-34. Chengalpattu district has recorded the highest gain of 75 per 1,000 in the age-group of 5-14. Literates in age-group 5-14 form over 46 per cent in this district as compared to only 39 per cent in the higher age-group of 15-34. Salem district too has revealed a sizable excess of 67 literates per 1,000 persons indicating a higher literacy ratio in the younger age-group of 5-14. Madurai district which shows an excess of over 50 literates per 1,000 persons in the younger age-group (5-14) over that of the older one (15-34) is known for its rapid progress in the field of education. In the districts of North Arcot, Dharmapuri and Ramanathapuram marginally higher ratios of literates (with gains of less than 20 per 1,000 persons) are noticed in the age-group 5-14. The literacy ratios are lower in 5-14 age-group than in 15-34 in the districts of South Arcot, Thanjavur and Tirunelveli; these are predominantly agricultural districts but still the lower literacy per cent in younger ages in the rural areas of these districts is suggestive of a proportionately lower school enrolment in spite of the provision of free school education in the state.

Data on literates per 1,000 persons in the two age-groups of 5-14 and 15-34 and the excess or shortfall

in the former in relation to the latter are presented in the statement below for State and districts :

Unit	Literates per 1,000 population in rural areas in age-group		Excess or short fall in ratio (column 2 minus column 3)
	5-14	15-34	
1	2	3	4
TAMIL NADU	440	419	+21
Madras		Entirely urban	
Chengalpattu	465	390	+75
North Arcot	412	395	+17
South Arcot	342	359	-17
Dharmapuri	281	266	+15
Salem	397	330	+67
Coimbatore	431	392	+39
Nilgiris	560	532	+28
Madurai	478	421	+57
Tiruchirapalli	444	405	+39
Thanjavur	452	468	-16
Ramanathapuram	463	451	+12
Tirunelveli	522	534	-12
Kanniyakumari	763	732	+31

A scatter diagram where the districts have been plotted with reference to the rural literacy ratio in 15-34 age-group on the horizontal axis and similar ratio for 5-14 on the vertical axis is presented at the bottom of the map. The diagonal line in this diagram (running from south-west to north-east) represents the line of equality. The districts with excess of ratio in 5-14 age-group go above this equality line while the rest fall below.



MAP 111

LITERATES PER 1,000 OF POPULATION IN AGE 5-14 OVER LITERATES PER 1,000 OF POPULATION IN AGE 15-34 IN URBAN AREAS 1971

This map gives the excess/shortfall in the ratio of literates per 1,000 persons in age-group 5-14 over that in age-group 15-34 for urban areas. It is similar to the previous map on rural areas. All the fourteen districts in the State have been grouped into five ranges; two under "excess" and three under "shortfall".

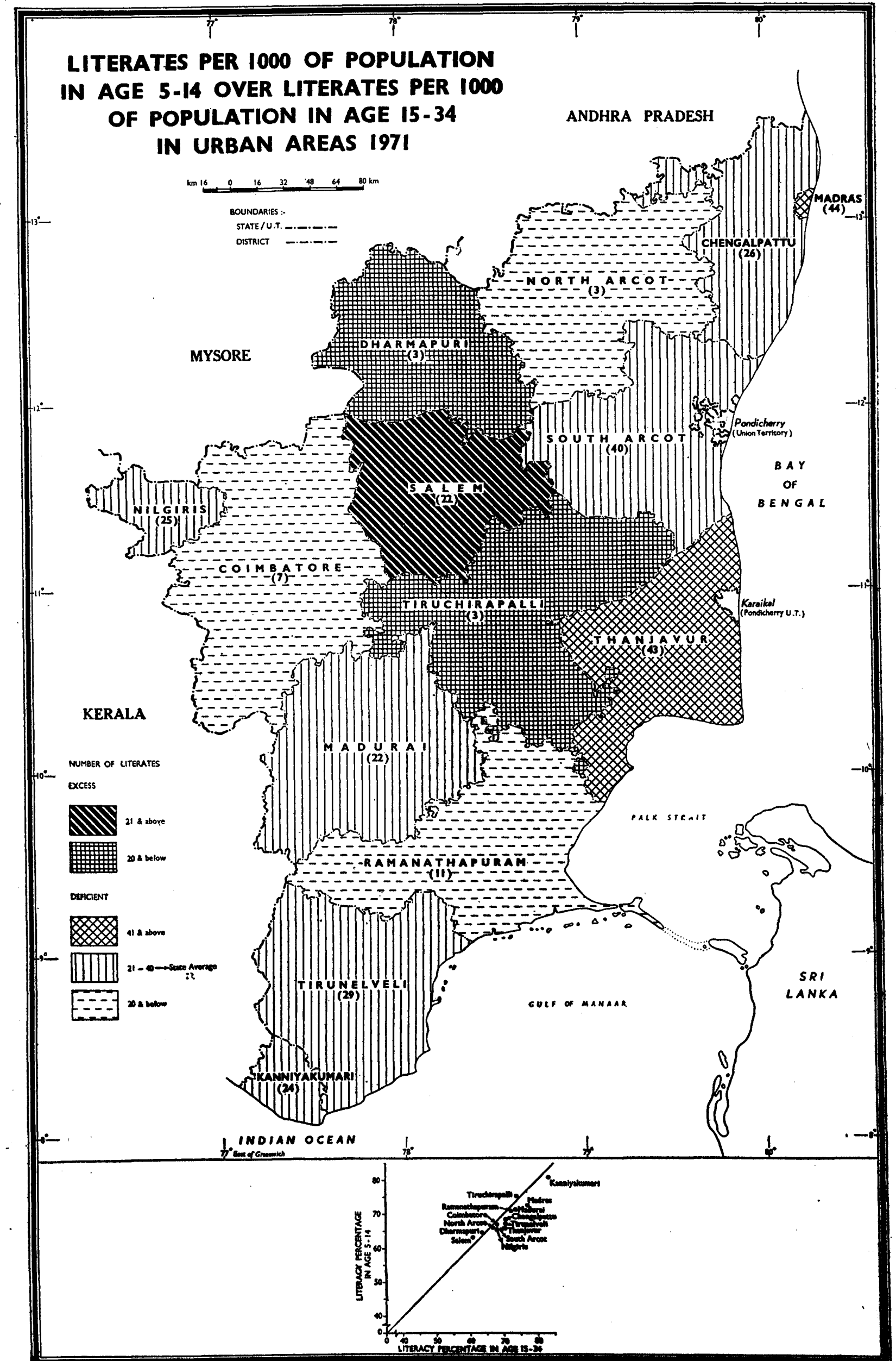
In the urban areas, the rates of literacy are quite high even in higher age-groups as availability of educational facilities and enrolment of boys/girls are appreciably high. The literacy ratio for urban areas in the State in age-group 15-34 is 714 per 1,000 persons and this is higher than the ratio in 5-14 age-group which is 692. The slightly lower ratio in the younger age-group may perhaps be attributable to late enrolment of children and probable in-migration of older age-group persons into urban centres. For the state as a whole, in the younger age-group of 5-14, the literacy ratio is deficient by 22 per 1,000 when compared with the ratio in age-group 15-34. Shortfall in the ratio above the average of 22 per 1,000 persons is found in seven districts while the shortfall in Madurai is the same as for state. There are three districts where the literacy rates are higher in age-group 5-14 than in 15-34 and these are Salem, Dharmapuri and Tiruchirapalli.

Madras has recorded a high literacy ratio (770) in 15-34 age-group and a lower ratio (726) in 5-14 age-group resulting in the highest shortfall of 44 literates per 1,000 persons in the younger age-group. Thanjavur also has recorded a shortfall of 43 per 1,000 in age-group 5-14. An excess of 22 per 1,000 in literates is noticed in Salem while Tiruchirapalli and Dharmapuri have recorded very small excesses of 3 per 1,000 in the younger age-group. The above three districts with higher literacy ratios in 5-14 age-group than in 15-34 age-group are all contiguous in the central region of the state. The highest literacy ratios of 832 per 1,000 in the age-group 15-34 and 808 in 5-14 among all districts are in Kanniyakumari where the shortfall is 24 per 1,000 in 5-14 age-group.

Ratio of literates per 1,000 persons in the two age-groups, 5-14 and 15-34 and the excess or shortfall in the former age-group over the latter are given below :

Unit	Urban literates per 1,000 persons in age-group		Excess or shortfall in ratio in 5-14 age-group over 15-34 age-group (Col. 2 minus Col. 3)
	5-14	15-34	
1	2	3	4
TAMIL NADU	692	714	-22
Madras	726	770	-44
Chengalpattu	679	705	-26
North Arcot	663	666	-3
South Arcot	656	696	-40
Dharmapuri	644	641	+3
Salem	633	611	+22
Coimbatore	672	679	-7
Nilgiris	654	679	-25
Madurai	712	734	-22
Tiruchirapalli	748	745	+3
Thanjavur	656	699	-43
Ramanathapuram	711	722	-11
Tirunelveli	677	706	-29
Kanniyakumari	808	832	-24

A diagram similar to the one given for rural areas (previous map) is presented. The horizontal axis represents the age-group 15-34 and the vertical axis, the age-group 5-14. The diagonal represents the line of equality. Points above the diagonal indicates the excess of literates in 5-14 and those below indicates excess of literates in 15-34.



MAP 112

PRIMARY SCHOOL ENROLMENT OF BOYS 1971

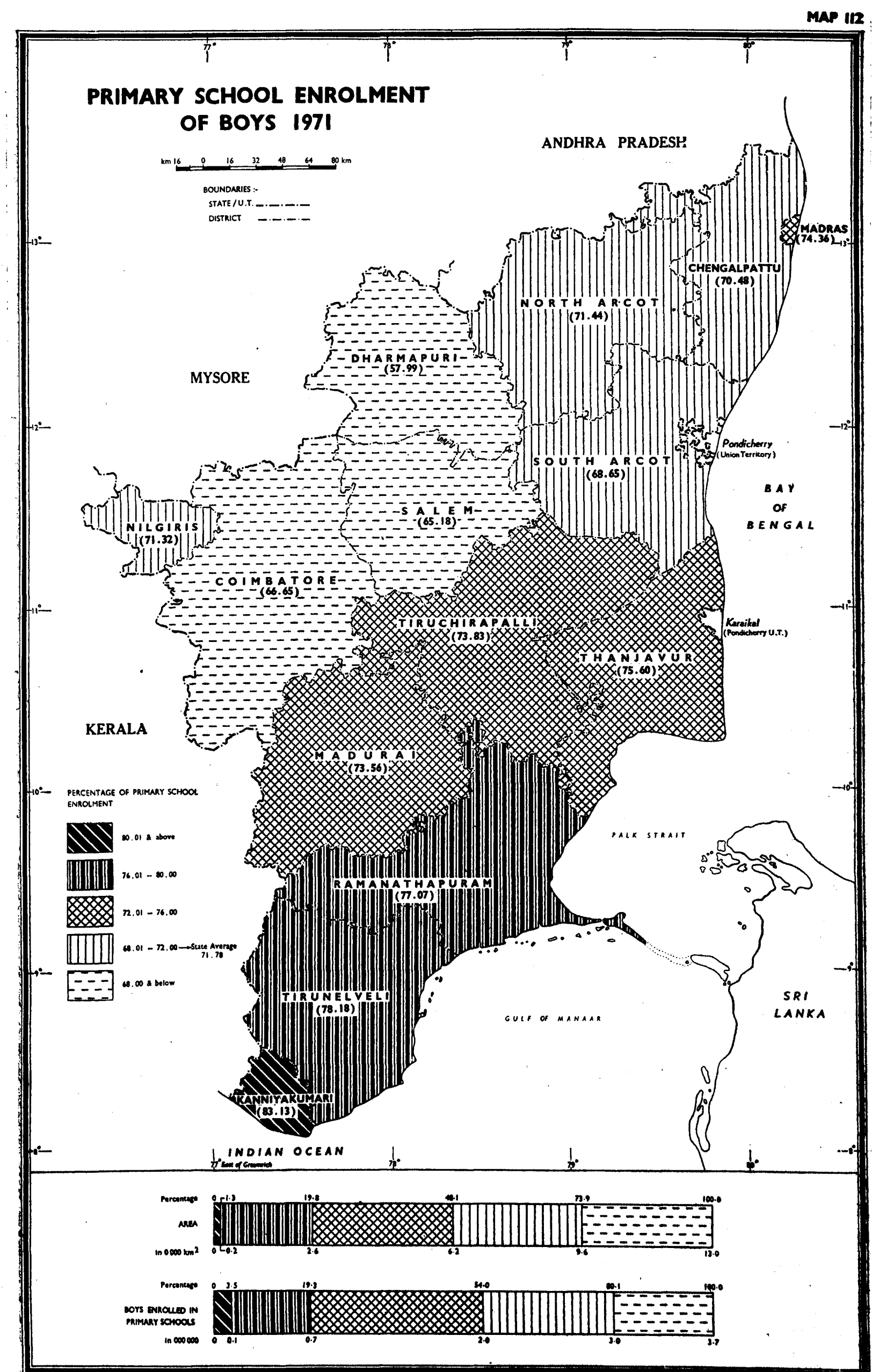
This map shows the pattern of school enrolment of boys at the primary and middle level, i.e. in the age-group of 5-14. Data on primary and middle school enrolment of boys in 1971 were obtained from the Directorate of School Education, Government of Tamil Nadu. Using the 5-14 age-group data for males available in Census Tables, the percentage of enrolment has been worked out. The districts have been grouped in five broad ranges according to their enrolment as per the legend of the map.

Nearly 3.69 out of the 5.14 million boys of 5-14 age-group are enrolled in schools in 1971 giving a State average of 71.78 per cent. Seven out of the 14 districts have higher enrolment ratios than the State average, and the remaining seven have lower ratios. The enrolment varies from 57.99 per cent in Dharmapuri district (lowest) to 83.13 in Kanniyakumari. The small district of Kanniyakumari at the southern end has the highest percentage of enrolment of boys. The setting-up of a number of educational institutions by Christian missionaries in this and the neighbouring district of Tirunelveli had obviously contributed to this high enrolment. High enrolment ratio is also observed in the districts of Tirunelveli (78.18 per cent), Ramanathapuram (77.07) and Thanjavur (75.60) which are all contiguous and lie in the eastern and southern part of the state. It is significant to note that the ratios which are high in southern districts gradually decline in the northern districts. Madras city has a high ratio of 74.36 per cent in view of the educational opportunities available in this capital and the realisation of the inhabitants of about the prime necessity of education for job opportunities. It is in the north-western belt of the State consisting of Salem, Dharmapuri and Coimbatore districts, the enrolment ratios are low. In the districts of Madurai, Thanjavur and Coimbatore we find over 0.35 million of boys of 5-14 ages enrolled in primary and middle schools.

The male population of 5-14 ages, the number of boys who are enrolled in primary and middle schools, together with their ratio are presented below for the State and districts.

Unit	Boys in 5-14 age-group	Boys enrolled in primary and middle schools	Percentage of enrolment
1	2	3	4
TAMIL NADU	5,142,458	3,691,422	71.78
Madras	289,532	215,303	74.36
Chengalpattu	367,150	258,780	70.48
North Arcot	485,785	347,040	71.44
South Arcot	452,957	310,958	68.65
Dharmapuri	236,495	137,133	57.99
Salem	374,446	244,054	65.18
Coimbatore	529,271	352,761	66.65
Nilgiris	67,275	47,980	71.32
Madurai	497,442	365,900	73.56
Tiruchirapalli	459,743	339,440	73.83
Thanjavur	478,019	361,373	75.60
Ramanathapuram	356,589	274,807	77.07
Tirunelveli	393,327	307,518	78.18
Kanniyakumari	154,427	128,375	83.13

The area in km² and the boys enrolled in primary classes in districts falling in the five ranges from high to low enrolment per cent as given in the main map, are represented in the two horizontal bar diagrams given at the bottom. The actual area and the number of boys as also their percentages are given cumulatively.



MAP 112

PRIMARY SCHOOL ENROLMENT OF GIRLS 1971

Similar in content to the previous map for boys, this map indicates the percentage of enrolment of girls of age-group 5-14 in primary and middle schools. Based on the enrolment ratio worked out, the 14 districts of the State have been brought under six broad ranges per the legend of the map.

The enrolment ratio in primary and middle schools is generally lower for girls than that for boys at similar ages. In the state as a whole, 52.08 per cent of girls in age-group 5-14 are enrolled in primary and middle schools. As in the case of boys, it is the southern districts which have a high enrolment percentage for girls also. In Kanniyakumari district where there is the highest enrolment percentage among districts, nearly three out of every four girls of 5-14 age-group are enrolled in schools. In the adjoining Tirunelveli district also, the enrolment of girls works out to 61.47 per cent. In Madras, the State headquarters, there is greater awareness of the need for women's education and there are a number of institutions for imparting education to girls. Job opportunities for the educated women in urban centres give a fillip to school enrolment of girls. The enrolment ratio here is 67.20 per cent which is second among districts, next only to Kanniyakumari. Apart from Ramanathapuram and Nilgiris districts which have a good enrolment of 55 to 60 per cent, the other districts with over 50 per cent of enrolment of girls are Madurai, Tiruchirapalli and Thanjavur. Christian missionaries' educational institutions in the southern districts have contributed towards higher enrolment in schools for girls. The least enrolment is in the backward district of Dharmapuri (35.90 percent). Salem and South Arcot districts have also lower ratios of around 44 per cent. Large dependence on agriculture and allied activities in these districts and induction of younger persons in such work may have resulted in lesser enrolment. Barring Madras, the low enrolment is widespread in the northern districts.

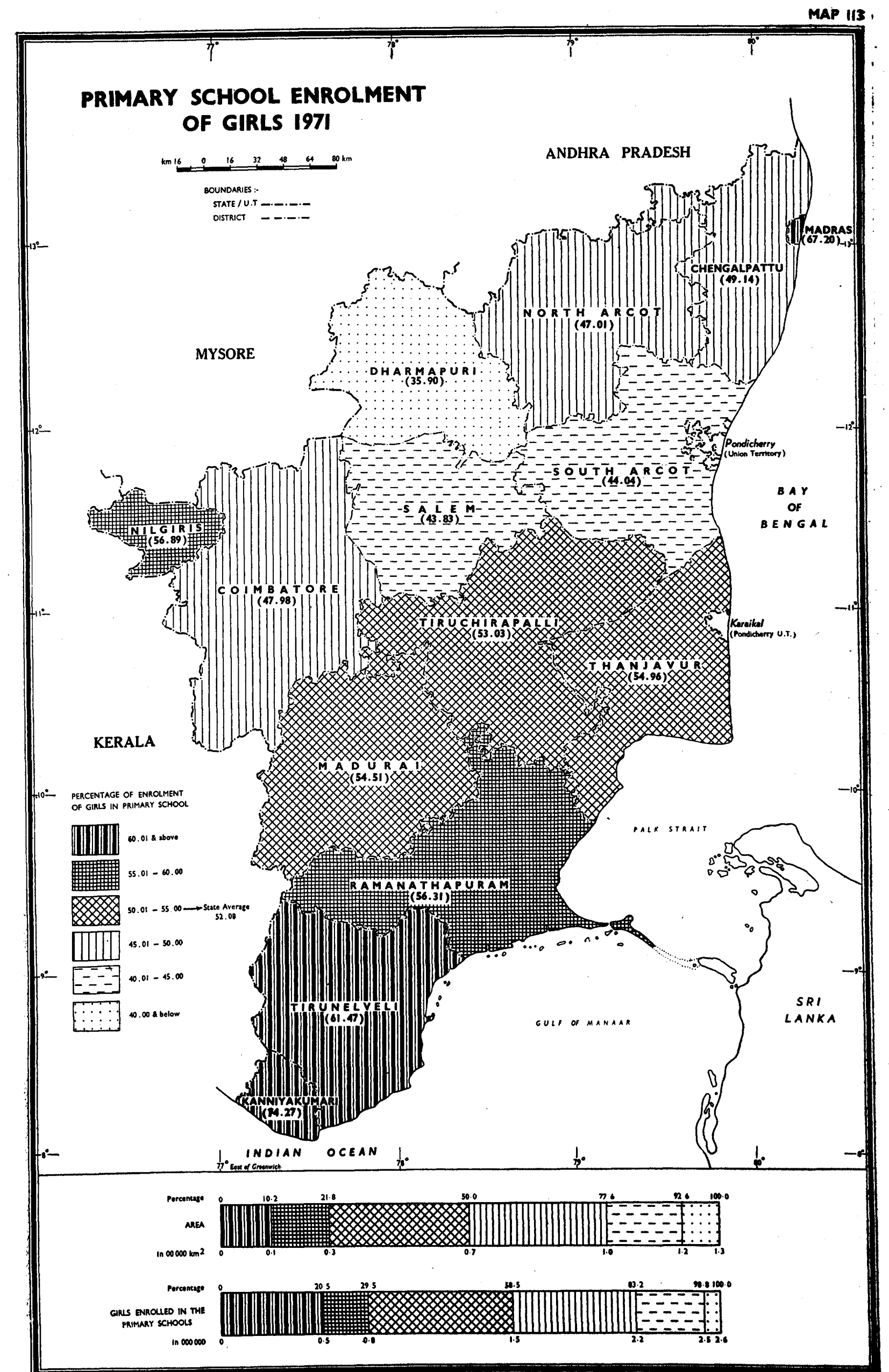
Eight of the 14 districts (covering half the total area of the State) have over fifty per cent enrolment of girls in primary schools. A total of 2.62 million girls are enrolled in primary schools in the state. Over two

lakh girls are enrolled in each of the districts of North Arcot, Coimbatore, Madurai, Tiruchirapalli, Thanjavur and Tirunelveli.

The number of girls in ages 5-14, the number among them who are enrolled in primary and middle schools and their percentage are given below :

Unit	Girls in 5-14 age-group	Girls enrolled in primary and middle schools	Percentage of enrolment
1	2	3	4
TAMIL NADU	5,027,436	2,618,263	52.08
Madras	282,050	189,549	67.20
Chengalpattu	357,575	175,710	49.14
North Arcot	474,654	223,131	47.01
South Arcot	443,483	195,309	44.04
Dharmapuri	233,608	83,876	35.90
Salem	363,982	159,527	43.83
Coimbatore	519,273	249,144	47.98
Nilgiris	66,707	37,948	56.89
Madurai	486,404	265,144	54.51
Tiruchirapalli	448,054	237,600	53.03
Thanjavur	469,038	257,776	54.96
Ramanathapuram	351,026	197,664	56.31
Tirunelveli	382,198	234,942	61.47
Kanniyakumari	149,384	110,943	74.27

Two horizontal bar diagrams at the bottom of the main map indicate the area in km² and the number of girls of 5-14 age-group enrolled in primary and middle schools, of the districts falling in the six ranges (from high to low) shown in the map. The actual figures and percentages are shown cumulatively.



MAP 114

SCHOOL GOING CHILDREN PER 1,000 OF CHILDREN IN AGE 5-14 1971

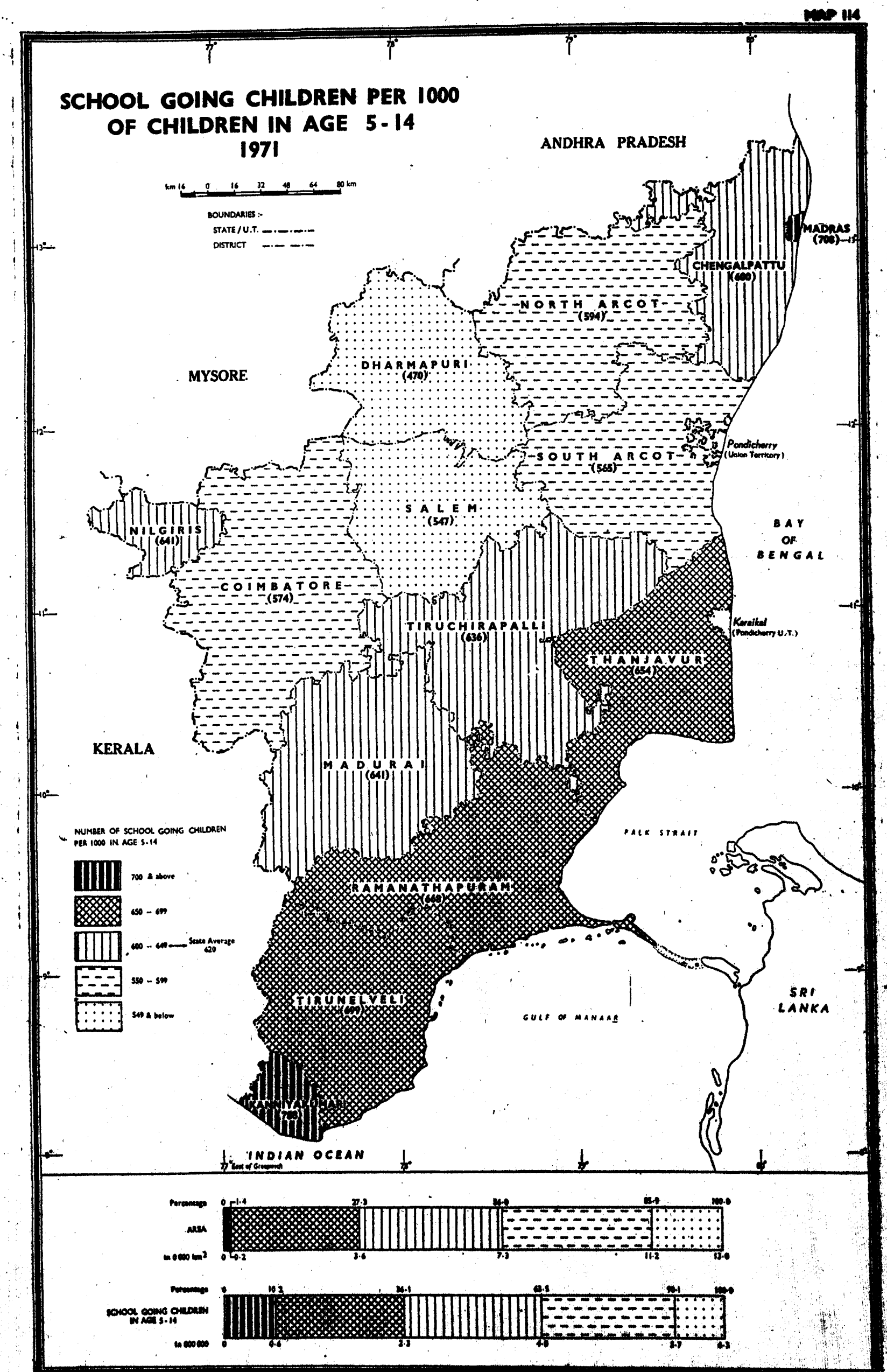
This map shows the extent of children attending school in the age-group 5-14 in the districts. Data on the school going children have been collected from the Directorate of School Education of the Tamil Nadu Government and using this along with 1971 Census population of 5-14, the ratio of children attending school per 1,000 children has been worked out. The district have all been grouped under five broad ranges as shown on the legend of the map.

Six hundred and twenty out of every 1,000 children in the age-group 5 to 14 attend schools in the State as a whole. Eight districts out of the fourteen districts have higher ratios than the State average and the remaining six districts have lower ratios. Kanniyakumari district has recorded the highest ratio of 788 per 1,000 children attending schools. Even in Madras where education is widespread and the need for it well realised by the residents, the ratio of children going to school is 708 second only to Kanniyakumari. These two districts have recorded high literacy rates in 1971 Census. Madras 62.01 per cent and Kanniyakumari 58.21 per cent. The three other districts with a high ratio of school attendance are in the south viz. Tirunelveli, Ramanathapuram and Thanjavur. These are all coastal districts and are contiguous lying in the east. The backward district of Dharmapuri has the lowest ratio of 470 indicating that not even half the children of 5-14 age-group attend school. Salem with only 547 per 1,000 children has also a very low ratio of children attending schools, while Madurai and Tiruchirapalli districts, which are fairly advanced in both agriculture and industrialisation have recorded ratios above the State average. It is significant that the industrialised district of Coimbatore has shown a lower ratio of 574 per 1,000. Barring Madras, the northern and north-western districts have lower ratios than the coastal southern districts. There are 6.3 million school going children of age-group 5-14 in the State and seven districts have each over half-a-million such children.

Population of 5-14 age-group in districts, the number of school going children and their ratio are shown for state and districts in the following statement.

Unit	Census population of children in ages 5-14	School going children of ages 5-14	Ratio of School going children to 1,000 children
1	2	3	4
TAMIL NADU	10,169,894	6,309,685	620
Madras	571,582	404,852	708
Chengalpattu	724,725	434,490	600
North Arcot	960,439	570,171	594
South Arcot	896,440	506,267	565
Dharmapuri	470,103	221,009	470
Salem	738,428	403,581	547
Coimbatore	1,048,544	601,905	574
Nilgiris	133,982	85,928	641
Madurai	983,846	631,044	641
Tiruchirapalli	907,797	577,040	636
Thanjavur	947,057	619,149	654
Ramanathapuram	707,615	472,471	668
Tirunelveli	775,525	542,460	699
Kanniyakumari	303,811	239,318	788

The two bar diagrams below the map show (i) the geographical area in km² and (ii) the number of school going children of age-group 5-14 of the districts in the five ranges - from high to low. The actual figures as also percentages are given in these diagrams.



MAP 115

EDUCATIONAL ENROLMENT OF POPULATION AT HIGHER SECONDARY AND HIGHER LEVELS 1971

This map shows the variation among districts in the educational enrolment of population in age-group 15-24 at higher secondary and higher levels. While the data on population of 15-24 age-group relate to Census 1971, the data on enrolment at higher secondary and university levels have been obtained from the Directorate of School and College Education of the Government of Tamil Nadu. Medical and engineering students have not been taken into consideration for purposes of this map. Based on the percentages of enrolment, the districts have been grouped into six broad ranges as per the legend of the map.

The enrolment in higher secondary and higher levels of persons in the age-group 15-24 is 11.70 per cent at the State level. Among the districts, the highest percentage of enrolment is in Madras (19.77 per cent). This is understandable as Madras is a big commercial and industrial centre. Opportunities for higher studies and employment are high here when compared to other areas. Kanniyakumari which has a high literacy percentage is also prominent in the enrolment of students at higher educational levels (18.97 per cent). Nilgiris district too has a higher percentage of 13.93. These three districts are far away from each other and lie in three corners of the State. Tiruchirapalli, Madurai and Tirunelveli are the other districts which possess higher ratios than the State average, and these districts are also well known for their higher educational facilities. These districts are in the forefront in education for a long time, and Christian missionaries have started many schools here which are functioning well.

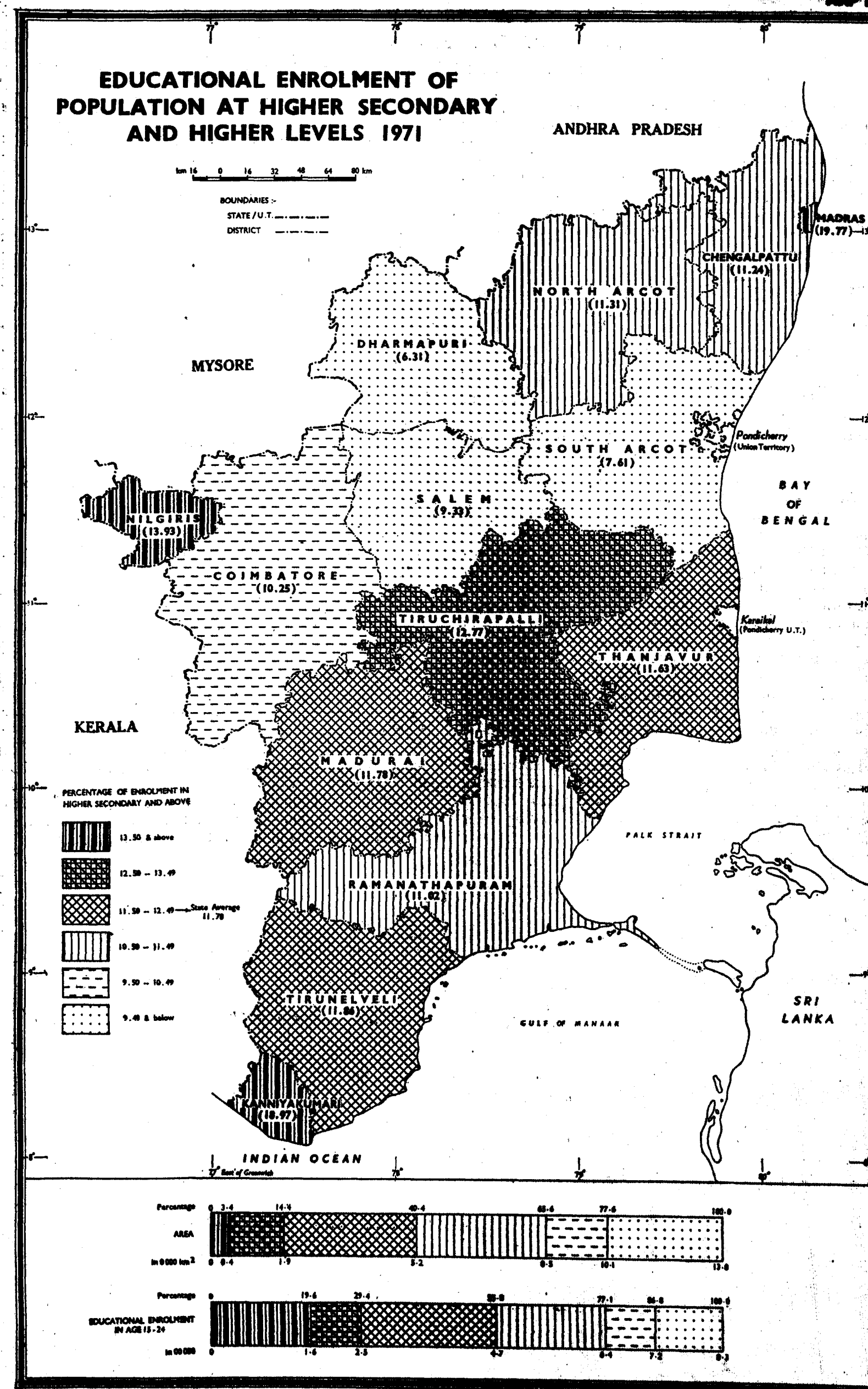
It is found that Dharmapuri district represents the total proportion of 6.31 per cent in enrolment. The adjoining South Arcot and Salem districts have also lower percentages of less than ten per cent. It is also noteworthy that with only 10.25 per cent, the industrialised and well urbanised district of Coimbatore lags behind in the field of enrolment at higher educational levels. There are 834,076 persons in age-group 15-24 enrolled at higher secondary and higher levels in the State and nearly one-eighth of them are in Madras. Over 75,000 such students are enrolled in each of the districts of Tiruchirapalli, Madurai, Coimbatore and

Thanjavur. Nilgiris and Dharmapuri respectively have only 13,443 and 16,264 persons of this age-group who are enrolled in higher secondary and higher levels.

The population of age-group 15-24 in the State and districts, the number enrolled in higher secondary and higher levels and their percentages are given in the following statements

Unit	Persons in age-group 15-24	Educational enrolment in age-group 15-24	Percentage of enrolment in age-group 15-24
1	2	3	4
TAMIL NADU	7,126,985	834,076	11.70
Madras	517,366	102,298	19.77
Chengalpattu	492,531	55,378	11.24
North Arcot	618,986	70,024	11.31
South Arcot	587,278	44,713	7.61
Dharmapuri	257,755	16,264	6.31
Salem	528,218	49,273	9.33
Coimbatore	791,918	81,142	10.25
Nilgiris	96,504	13,443	13.93
Madurai	669,665	78,901	11.78
Tiruchirapalli	641,556	81,913	12.77
Thanjavur	653,969	76,071	11.63
Ramanathapuram	469,919	51,799	11.02
Tirunelveli	550,663	65,311	11.86
Kanniyakumari	250,657	47,546	18.97

The two bar diagrams at the bottom of the map give the geographical area in km² and the number of students enrolled in ages 15-24 of the districts coming under the six ranges. The actual figures and percentages for these ranges (from high to low) are also shown in these diagrams.



EDUCATIONAL ENROLMENT OF MALES AT HIGHER SECONDARY AND HIGHER LEVELS 1971

This map shows district-wise variations in the ratio of educational enrolment of males at higher secondary and higher levels. This map for males is similar to the previous map presented for all persons and relates to male population of age-group 15-24. Medical and engineering students have not been taken into consideration for purposes of the map. The districts have been grouped into five broad ranges for depiction.

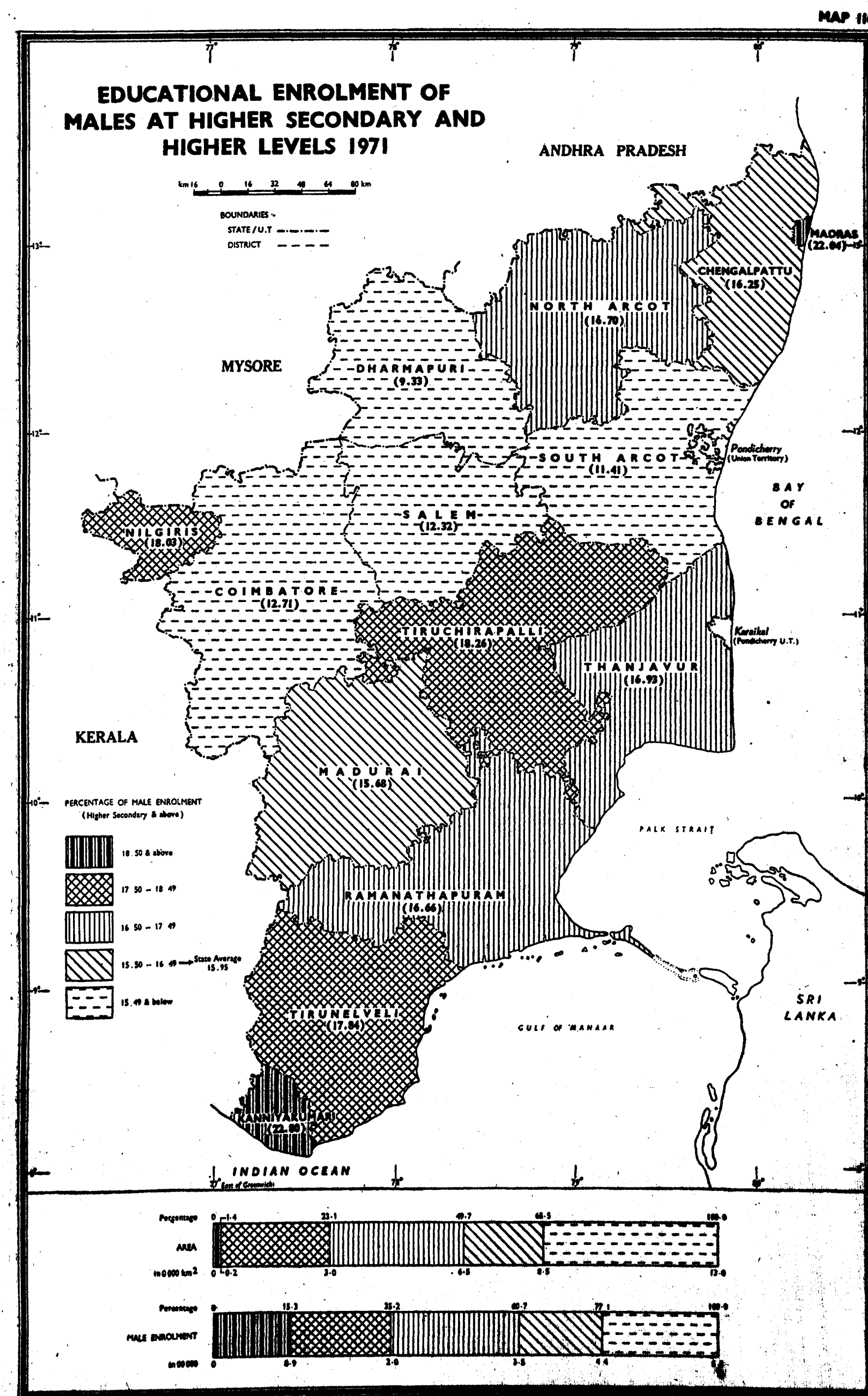
The percentages of enrolment at the State level is 15.95. This enrolment ratio for males of age-group 15-24 is higher than similar ratio for all persons of this age-group (11.70 per cent). In the districts as a whole the male ratio is higher than the general ratio for all persons as education at higher levels are pursued in large numbers by males than by females. We find that nine districts have higher percentages than the ratio for state and only five districts have lower ratios.

As is usually observed in maps relating to literacy and education, Madras and Kanniyakumari have very high percentages of male enrolment in age-group 15-24. While Kanniyakumari has the highest percentage of 22.80, Madras closely follows it with 22.04 per cent. The southern districts, (with the exception of Madurai) as also the urbanised districts of Chengalpattu, North Arcot and Nilgiris in the north and west, have a higher percentage of enrolment than for state as a whole. The districts of Dharmapuri, South Arcot and Salem fall at the other end with very low percentage of enrolment of males in higher secondary and higher levels. These districts are contiguous. Coimbatore, the industrialised district has also a low proportion of 12.71 per cent and lies in a continuous range along with the above three districts. There are 576,095 young men in age-group 15-24 in the State who are enrolled for higher secondary education and other higher levels. The largest number is found in Madras (59,507) and Tiruchirapalli (59,249) while there are four more districts each having over 50,000 males enrolled for higher studies.

Data of young men in the age-group 15-24, the number enrolled among such men and their per cent are given for State and districts in the following statement :

Unit	Males in age-group 15-24	Males enrolled in higher secondary and higher levels 15-24	Percentage of enrolment
1	2	3	4
TAMIL NADU	3,612,900	576,095	15.95
Madras	269,936	59,507	22.04
Chengalpattu	255,187	41,480	16.25
North Arcot	320,061	53,449	16.70
South Arcot	300,245	34,245	11.41
Dharmapuri	134,403	12,536	9.33
Salem	274,423	33,796	12.32
Coimbatore	405,649	51,575	12.71
Nilgiris	48,155	8,680	18.03
Madurai	338,109	53,001	15.68
Tiruchirapalli	324,434	59,249	18.26
Thanjavur	329,371	55,761	16.93
Ramanathapuram	227,497	37,897	16.66
Tirunelveli	260,974	46,549	17.84
Kanniyakumari	124,456	28,370	22.80

The two bar diagrams below the map give the geographical areas in km² and the number of males of age-group 15-24 enrolled in higher secondary and higher levels of the districts falling in the five ranges from high to low ratio. The actual figures and percentages for the ranges are also marked in these diagrams.



MAP 117

EDUCATIONAL ENROLMENT OF FEMALES
AT HIGHER SECONDARY AND HIGHER LEVELS 1971

This map shows the district-wise percentages of female enrolment in higher secondary and higher levels. The map is similar in presentation to the earlier map for males. The female population of the age-group 15-24 pertains to 1971 Census data. Data on educational enrolment at higher secondary and higher levels have been gathered from the Directorate of School and Collegiate education of the State Government. Medical and Engineering students have not been taken into consideration for purposes of this map. The districts have been brought under five broad ranges of enrolment.

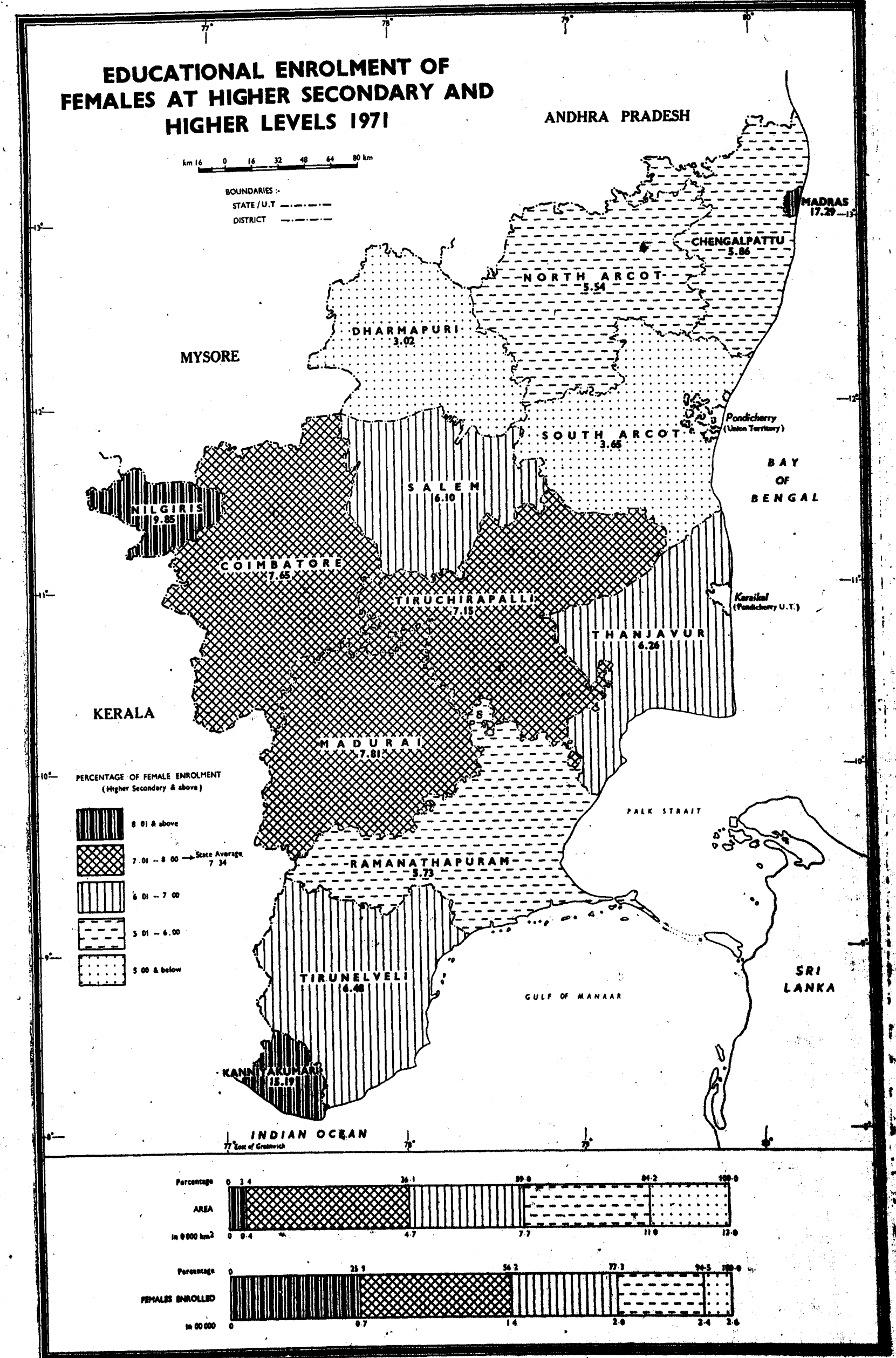
At the state level, only 7.34 per cent of females of age-group 15-24 are enrolled at higher secondary and higher levels of education. A common feature with regard to educational aspect of the population is the emergence of Madras and Kanniyakumari districts with very high ratios in literacy and enrolment. In Madras, the percentage of female enrolment is 17.29 which is the highest for all districts. Kanniyakumari district has also a high ratio of 15.19 per cent. Nilgiris has a ratio of 9.85 per cent. There are three other districts viz., Madurai, Coimbatore and Tiruchirappalli (which are contiguous) falling in the high range of 7 to 8 per cent. Only five districts show high percentage than the State average of 7.34 per cent while the remaining nine have lower percentages. The lowest percentage of 3.02 is in Dharmapuri district. South Arcot too has a low ratio of 3.65 per cent. Districts with low percentages of enrolment of six and below are all concentrated in the northern part of the state, the sole exception being Ramanathapuram in the south.

A little over a quarter million females are enrolled in higher secondary and higher levels in the State and the highest number of 42,791 is in Madras. Coimbatore and Madurai districts have a large number of females (i.e.) above 25,000 and below 30,000 at such higher levels of education. Educational facilities are comparatively at a higher level in these districts which have within its limits highly industrialised city regions.

Data on female population of 1971 in age-group 15-24, the number of them enrolled in higher secondary and higher educational levels and their percentage are given below :

Unit	Females in age-group 15-24	Females enrolled in higher secondary and higher levels	Percentage of enrolment
1	2	3	4
TAMIL NADU	3,514,085	257,981	7.34
Madras	247,430	42,791	17.29
Chengalpattu	237,344	13,898	5.86
North Arcot	298,925	16,575	5.54
South Arcot	287,033	10,468	3.65
Dharmapuri	123,352	3,728	3.02
Salem	253,795	15,477	6.10
Coimbatore	386,269	29,567	7.65
Nilgiris	48,349	4,763	9.85
Madurai	331,556	25,900	7.81
Tiruchirappalli	317,122	22,664	7.15
Thanjavur	324,598	20,310	6.26
Ramanathapuram	242,422	13,902	5.73
Tirunelveli	289,689	18,762	6.48
Kanniyakumari	126,201	19,176	15.19

Two bar diagrams showing the geographical area in km² and the number of females enrolled in the districts of the five ranges (from high to low) are presented below the main map. The actual figures and percentages for the five ranges are also indicated in these diagrams.



TEACHERS PER 1,000 OF STUDENTS AT PRIMARY, SECONDARY
UNIVERSITY LEVEL AND OF ALL GRADES PER 100 SCHOOLS 1971

Four small sized maps presented here show the district-wise variations in the teacher-pupil ratio at the primary, secondary and university levels as well as the teacher-school ratio. In all the four maps, the data have been grouped into four ranges and the districts falling under each range have been hatched by choropleth technique as shown in the legend of the concerned maps. The institutions referred in the map includes special schools like those for physically handicapped, jail/reformatory schools, oriental, craft and adult schools.

At the primary level, we find a low teacher-pupil ratio as compared to the secondary and university levels. For the State as a whole, there are only 26 teachers per 1,000 pupils in primary classes which roughly works out to 40 pupils per teacher. At the primary level there are 6.31 million students and 166,760 teachers in the State. Tirunelveli district has the highest teacher-pupil ratio among districts, with 32 teachers per 1,000 students at primary classes. Madurai comes second with 28 teachers while the districts of North Arcot, South Arcot, Tiruchirappalli and Ramanathapuram each have 27 teachers per 1,000 pupils. The lowest ratio is in Nilgiris district. (21) Madras (22), Coimbatore (23) and Kanniyakumari (24) districts have also comparatively lower ratios.

At the secondary stage of education, we find 675,144 students and 61,040 teachers in the State which gives a ratio of 90 teachers per 1,000 students. Compared to other educational levels, we find the highest teacher-pupil ratio at the secondary educational level. There are three districts with a ratio of over 100 teachers per 1,000 students, viz., Dharmapuri (121), Nilgiris (110) and Salem (103). Six districts fall in the ratio range of 90-100. Four districts including Madras fall in the ratio range of 80 to 90. Thanjavur is the district with the poorest ratio of 63 teachers.

In the field of higher education, i.e. at university level, in 1971 there were 158,932 students and 8,318 teachers in the State and this gives a ratio of 52 teachers per 1,000 college students. The highest ratio at university level among districts is in Nilgiris (93). The next highest ratio of 61 is in Ramanathapuram district and there is a wide gap in this ratio as compared to that of Nilgiris. Kanniyakumari (60) and Dharmapuri (59) districts also show a good proportion when compared with the rest of the districts. The districts of Tiruchirappalli (45) and Thanjavur (47) have very low ratio of teachers at university level. Four of the 14 districts of the State fall in the range of 52-55 and another four in the range 48-51.

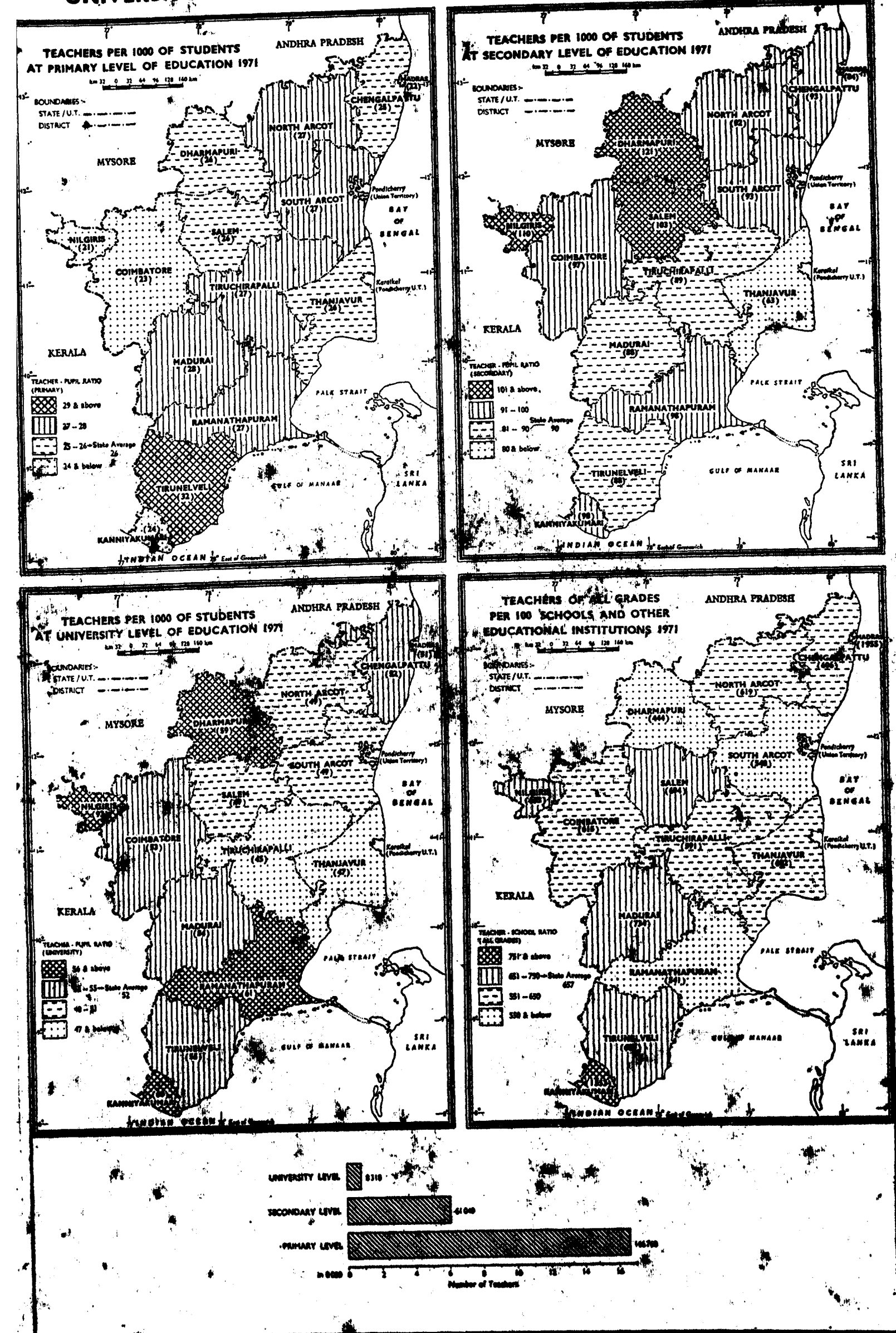
Schools and other similar institutions number 34,755 in the State. With a strength of 228,444 teachers in these institutions, we have an average of 657 teachers per 100 schools. Madras city which has a number of big-sized schools, with very large number of sections in each class, has revealed a very high ratio of 1,955 teachers per 100 schools. On an average, this works to nearly 20 teachers per school. The district of Kanniyakumari too has a good ratio of 1,553 teachers per 100 schools. The teacher-school ratio is far below the above ratios in all the other Districts. Madurai district has the third highest ratio of 734. Very low ratios have been recorded in Dharmapuri (444), Ramanathapuram (541) and South Arcot (548) districts.

Data on the ratio of teachers to 1,000 students each at primary, secondary and university levels and ratio of teachers per 100 schools are given below for State and districts.

Unit	Teachers per 1,000 students at			Teachers of all grades per 100 schools
	Primary level	Secondary level	University level	
1	2	3	4	5
TAMIL NADU	26	90	52	657
Madras	22	84	51	1,955
Chengalpattu	25	93	52	606
North Arcot	27	92	49	619
South Arcot	27	93	49	548
Dharmapuri	26	121	59	444
Salem	26	103	49	694
Coimbatore	23	97	53	615
Nilgiris	21	110	93	653
Madurai	28	88	54	734
Tiruchirappalli	27	89	45	591
Thanjavur	26	63	47	602
Ramanathapuram	27	98	61	541
Tirunelveli	32	88	55	667
Kanniyakumari	24	98	60	1,553

Bar diagrams showing the number of teachers at primary, secondary and university levels in the State in 1971 are presented below the main map.

TEACHERS PER 1000 OF STUDENTS AT PRIMARY SECONDARY
UNIVERSITY LEVEL AND OF ALL GRADES PER 100 SCHOOLS 1971



TEACHERS PER 1,000 OF POPULATION 1971

This map shows the number of teachers per 1,000 of population of each district as during 1971. While the population relates to Census of 1971, the data on teachers have been collected from the Directorate of Collegiate and School education of the State Government. For the working of this ratio, all teachers at University level, including teachers in training, physical and oriental colleges and all school teachers including teachers in special schools have been taken into consideration. Teachers in technical institutions (engineering and medical) are however excluded. All the 14 districts of the State have been brought under four ranges for depiction in this map.

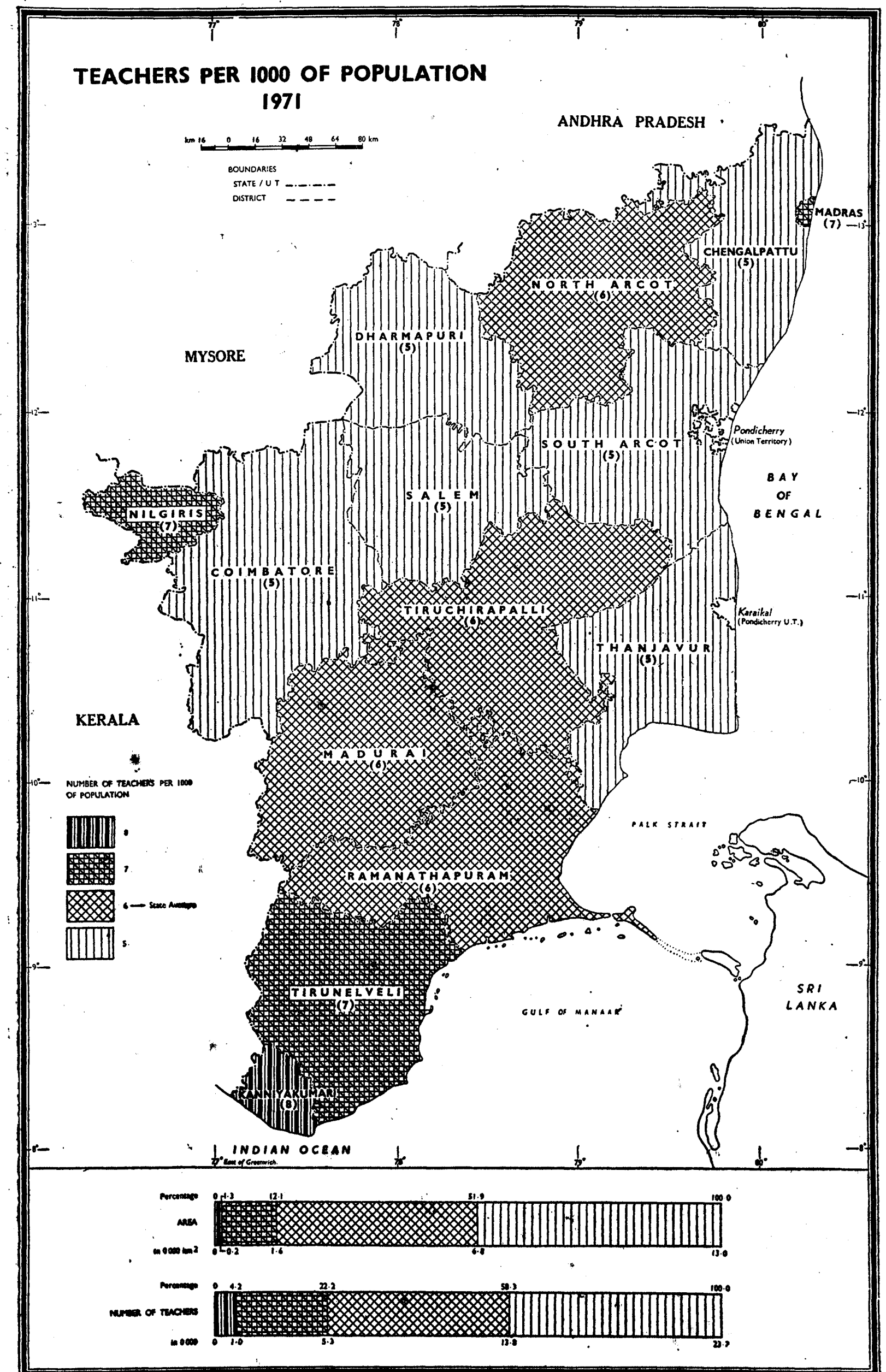
In the State as a whole, there are six teachers per 1,000 population. Kanniyakumari district at the southern end of the State has the highest proportion of eight teachers per 1,000 of population. This district has also recorded a very high literacy ratio of 58.21 per cent which is second only to Madras. Three other districts which have recorded a higher ratio are Madras, Nilgiris and Tirunelveli. Except North Arcot, the other three districts which have six teachers per 1,000 population equal to State average lie contiguous in the central region of the State. There are six districts with a low ratio of five which lie the northern part and are all contiguous.

There are on the whole 236,762 teachers in the State. Madurai district alone has the highest number (24,106). The other districts with over 20,000 teachers are North Arcot, Coimbatore, Tiruchirapalli, Thanjavur and Tirunelveli.

The population, the number of teachers and their ratio for the State and districts are given below :

Unit	Population	Teachers	Teachers per 1,000 Population
1	2	3	4
TAMIL NADU.	41,199,168	236,762	6
Madras ..	2,469,449	16,811	7
Chengalpattu ..	2,907,599	15,925	5
North Arcot ..	3,755,797	21,477	6
South Arcot ..	3,617,723	17,527	5
Dharmapuri ..	1,677,775	7,729	5
Salem ..	2,992,616	15,141	5
Coimbatore ..	4,373,178	21,256	5
Nilgiris ..	494,015	3,265	7
Madurai ..	3,938,197	24,106	6
Tiruchirapalli ..	3,848,816	22,216	6
Thanjavur ..	3,840,732	21,034	5
Ramanatha- puram ..	2,860,207	17,619	6
Tirunelveli ..	3,200,515	22,600	7
Kanniyakumari.	1,222,549	10,056	8

The geographical area in km² and number of teachers in the districts falling in the four ranges from high to low are shown in two bar diagrams below the main map. Data are presented in both actuals and percentages in these diagrams.



LITERATES HOLDING NON-TECHNICAL AND TECHNICAL DIPLOMA OR CERTIFICATES 1971

This map shows the ratio of persons holding non-technical and technical diploma or certificate not equal to degree, per 10,000 literates persons in each district. Diploma and certificates on a number of technical and non-technical subjects are being awarded by several of institutions, both Government and private and even though such diplomas/certificates are not considered equivalent degree but persons having these qualifications play a significant role among workers. The data for this map compiled from Census Cultural Table (C-III Part A) of 1971 throw light on the strength of such individuals in comparison to all literate and educated persons. The districts have been grouped into five broad ranges depending on the ratio of non-technical and technical diploma/certificate holders to 10,000 literates. Circles in proportion to the total number of non-technical and technical diploma or certificate holders have been drawn for each district with markings to distinguish the extent of 'non-technical' from 'technical' diploma/certificate holders.

There are 32,891 persons in the entire State holding technical and non-technical diploma/certificates and nearly 25 per cent of them are concentrated in Madras resulting in 54 diploma/certificate holders per 10,000 literates which is far higher than the rate of 20 per 10,000 for the State as a whole. The adjoining Chengalpattu district which encircles Madras on all sides except on the east side, and which has a liberal distribution of big and medium industries along the trunk road and rail routes

has the second highest ratio of 40 diploma/certificate holders per 10,000 literates. The other districts with a ratio equal to or higher than a State average of 20 are South Arcot, Coimbatore, Nilgiris and Tiruchirapalli. The northern districts of Dharmapuri (8) and North Arcot (9) have very low ratios, the southern districts of Madurai, Thanjavur, Ramanathapuram, Tirunelveli and Kanniyakumari have also low ratios and this block of districts apparently does not appear to have wide openings for such technical and non-technical diploma/certificate holders.

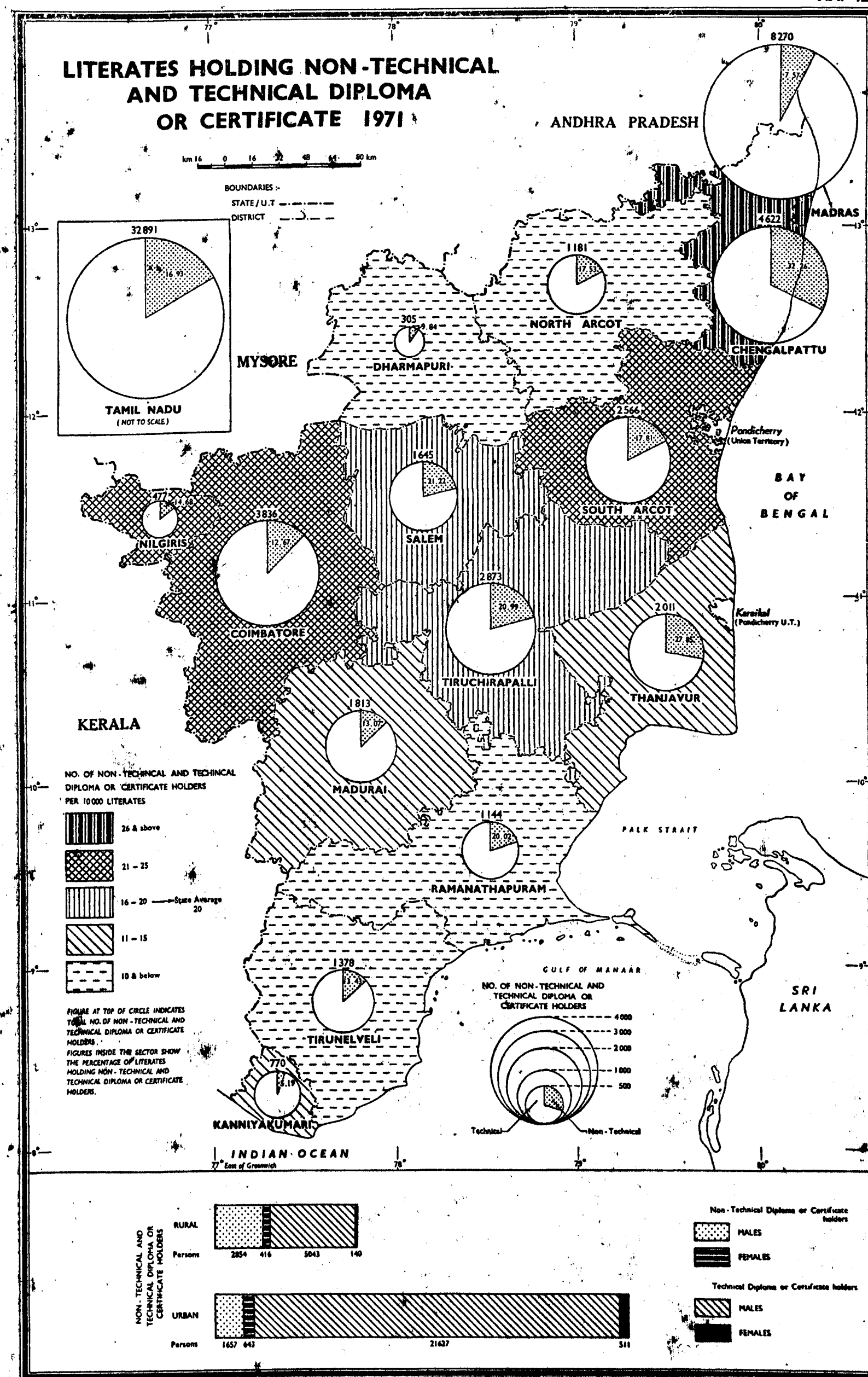
The technical diploma/certificate holders form a sizable proportion (83.07 per cent) and the non-technical form a smaller ratio even at the State level (16.93). While the highest percentage of technical diploma/certificate holders is in Kanniyakumari with 94.81 per cent, Chengalpattu district has the highest percentage for non-technical diploma/certificate holders (32.26). Madras (with 92.43 per cent) and Dharmapuri (with 90.16 per cent) are other two districts where over 90 per cent of diploma/certificate holders are technical. The districts of Tiruchirapalli, Thanjavur, Ramanathapuram and Salem, besides Chengalpattu have significant ratios of over 20 per cent under non-technical.

Data on literates, technical/non-technical diploma and certificate holders and their ratios are presented below for the State and districts.

Unit	Literate and educated persons	Number of technical and non-technical diploma certificate holders	Proportion per 10,000 literates Col: 3 × 10,000 Col : 2	Percentage distribution of diploma certificate holders	
				Non technical	Technical
1	2	3	4	5	6
TAMIL NADU	16,256,393	32,891	20	16.93	83.07
Madras	1,531,406	8,270	54	7.57	92.43
Chengalpattu	1,155,136	4,622	40	32.26	67.74
North Arcot	1,301,921	1,181	9	17.53	82.47
South Arcot	1,126,397	2,566	23	17.81	82.19
Dharmapuri	374,453	305	8	9.84	90.16
Salem	949,002	1,645	17	21.22	78.78
Coimbatore	1,701,088	3,836	23	12.67	87.33
Nilgiris	232,342	477	21	14.68	85.32
Madurai	1,634,860	1,813	11	13.07	86.93
Tiruchirapalli	1,443,554	2,873	20	20.99	79.01
Thanjavur	1,523,120	2,011	13	27.85	72.15
Ramanathapuram	1,136,629	1,144	10	20.02	79.98
Tirunelveli	1,434,809	1,378	10	13.43	86.57
Kanniyakumari	711,676	770	11	5.19	94.81

Two separate bar diagrams showing the division of males and females among the non-technical and technical diploma/certificate holders are given below the map for rural and urban areas of the State. It may be observed

that the male technical diploma or certificate holders in the urban areas are in sizable number and form the major portion of all persons holding non-technical/technical diploma/certificates (65.75 per cent).



MAP 121

LITERATES HOLDING UNIVERSITY DEGREES/DIPLOMAS
OF THE GRADUATE LEVEL AND ABOVE 1971

This map shows the ratio of individuals holding university degree/diploma to 10,000 literate population for each district according to the Cultural Table C-III of 1971 Census. The exact number of individuals holding qualifications of graduate and above levels along with the percentage of such persons living in rural areas is depicted in the form of pie diagrams within each district. All the districts have been brought under five broad ranges depending on their ratio of degree holders to literates.

There are 118 persons with qualifications upto degree level or above for every 10,000 literates in the State. The city of Madras has the highest ratio of 405 which is about three and a half times the ratio of the State. This signifies the high concentration of qualified persons in the State headquarters where job opportunities for educated persons and wide openings for technically and commercially educated persons exist. The hill-district of Nilgiris with a ratio of 153 is the second district with high ratio, although there is a wide difference when compared with the ratio of 405 in Madras. Chengalpattu, Coimbatore, Madurai and Kanniyakumari districts have also high ratios (between 103 and 112) due to developed industrial and commercial activities. The district of Dharmapuri has the poorest ratio of graduate to literate (viz., 51 per 10,000 literates) while the other predominantly agricultural districts of North Arcot, South Arcot,

Thanjavur and Ramanathapuram have also low ratios of graduates to literates.

The largest number of persons holding university degree/diplomas of the graduate level and above is in Madras, viz. 61,998 out of the total of 192,102 in the State. Coimbatore and Madurai districts with 18,993 and 16,806 occupy respectively the second and the third places among districts. Leaving Madras which is entirely urban, it may be observed that over 50 per cent of such qualified persons are found in rural areas in Kanniyakumari district (58.14 per cent). Such a high percentage may be attributed to the widespread distribution of schools even in the rural areas of this district and the availability of graduate teachers in such schools. The lowest percentage of graduate-level qualified persons in rural areas is in Coimbatore district (17.48 per cent) and the next lowest in Chengalpattu (18.56 per cent). In the State as a whole, 19.18 per cent of the total of 192,102 persons with graduate level qualifications are found in the rural areas.

Date on the number of literate and educated persons, with university degree/diploma of the graduate level and above, their ratio to literates, the percentage distribution of graduates in the rural-urban areas are provided in the following statement.

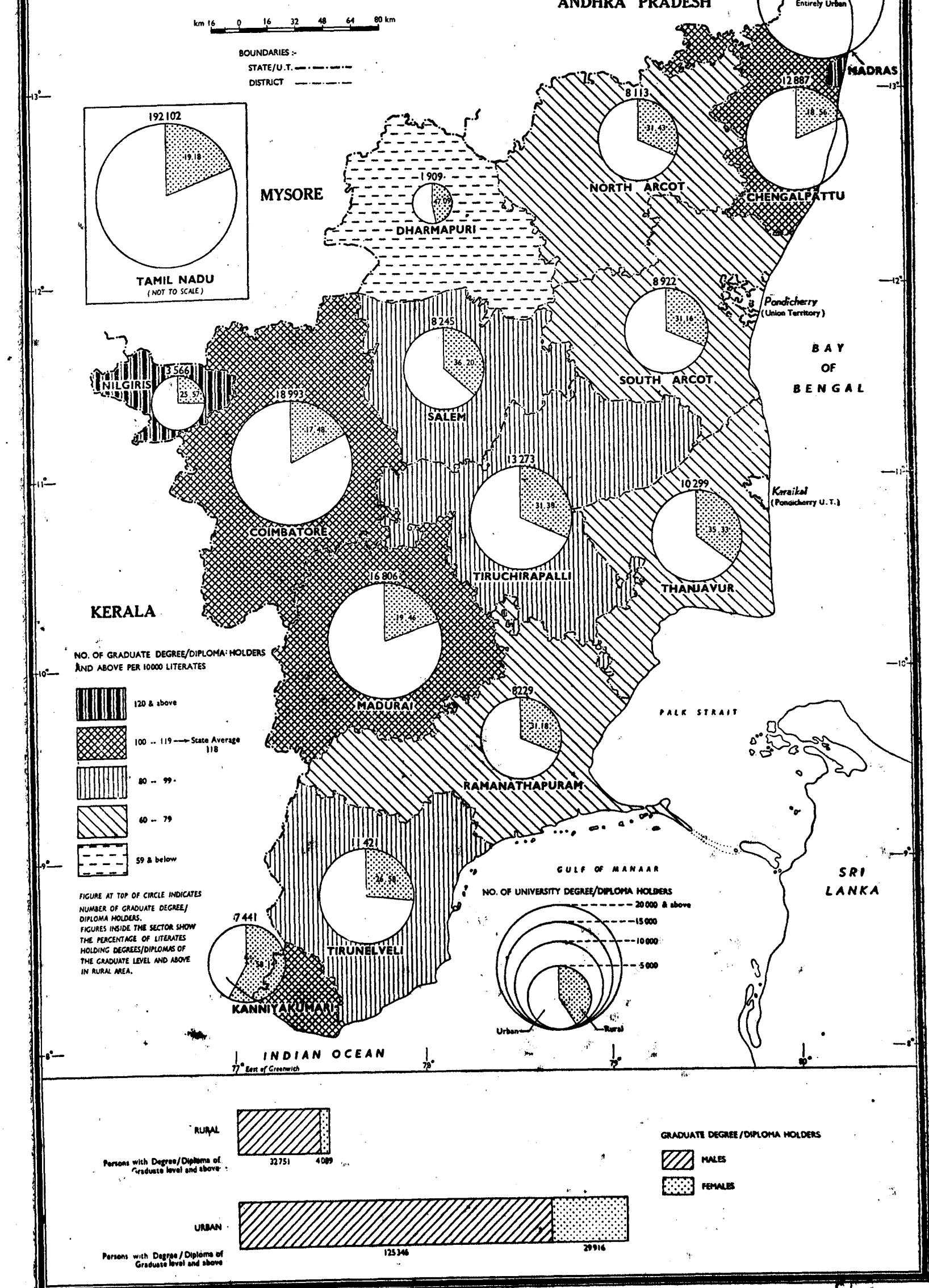
Unit	Literate and educated persons	Number of persons with degree/diploma equal to graduate level and above	Ratio of Col. 3 to Col. 2 to literate and educated persons	Rural-Urban percentage distribution of persons in Col.3	
				Rural	Urban
1	2	3	4	5	6
TAMIL NADU	..	16,256,393	192,102	118	19.18 80.82
Madras	..	1,531,406	61,998	405	— 100.00
Chengalpattu	..	1,155,136	12,887	112	18.56 81.44
North Arcot	..	1,301,921	8,113	62	31.43 68.57
South Arcot	..	1,126,397	8,922	79	31.16 68.84
Dharmapuri	..	374,453	1,909	51	47.09 52.91
Salem	..	949,002	8,245	87	36.20 63.80
Coimbatore	..	1,701,088	18,993	112	17.48 82.52
Nilgiris	..	232,342	3,566	153	25.57 74.43
Madurai	..	1,634,860	16,806	103	19.46 80.54
Tiruchirapalli	..	1,443,554	13,273	92	31.38 68.62
Thanjavur	..	1,523,120	10,299	68	35.33 64.67
Ramanathapuram	..	1,136,629	8,229	72	31.18 68.86
Tirunelveli	..	1,434,809	11,421	80	26.58 73.42
Kanniyakumari	..	711,676	7,441	105	58.14 41.86

Two bar diagrams below the map show the strength of males and females among individuals possessing qualifications of graduate and above levels for rural

and urban areas separately. It is significant to note that nearly 81 per cent of such qualified persons are in urban areas. About 65 per cent of them are males.

MAP 122

LITERATES HOLDING UNIVERSITY DEGREES/DIPLOMAS OF THE GRADUATE LEVEL AND ABOVE 1971



15. HOUSING

RURAL POPULATION LIVING IN VILLAGES OF DIFFERENT SIZES BY NUMBER OF HOUSES 1971

This map shows the distribution of rural population in villages of various house sizes in the districts during 1971 Census. The villages have been classified into five ranges 100 and below 101-200, 201-300, 301-400 and above 400 houses. The population living in such villages are indicated by bar diagrams. The percentage of rural population in each size-class to the total rural population of the district is also marked in the diagram.

A large majority of the rural population of Tamil Nadu live in the big sized villages. Villages with over 400 Census houses are inhabited by 64.13 per cent of the States rural population. In the smallest size with 100 houses and below only 3.12 per cent of rural population live. While 11.59 per cent of the rural population are in villages of size 301-400 houses, another 11.80 per cent are in villages with 201-300 houses. In the villages containing 101-200 houses, only 9.36 per cent of rural inhabitants dwell.

The percentage of rural population in very small sized villages with 100 houses and less is generally very low in all the districts. Chengalpattu district has the highest proportion in this group with 9.11 per cent. Three other Districts with more than the State average for such small sized villages, viz. North Arcot, South Arcot and Dharmapuri are all contiguous in the northern part of the State. Consequently these districts show comparatively lower proportion of population in the big sized villages with over 400 houses. Chengalpattu district has recorded the lowest percentage of 39.41 of rural population followed by 40.27 per cent in South Arcot district living in villages with over 400 houses.

Almost the entire rural population of Kanniyakumari lives in big sized villages with over 400 houses where 99.38 per cent of the rural population lives. It is significant to mention that 61 of the 66 villages in this district possess over 400 houses. In the hilly Nilgiris district also, 31 out of 42 villages are big sized with over 400 houses each and 96.27 per cent of this district's rural population live in such big villages. Further, Salem, Coimbatore, Madurai, Tiruchirapalli and Tirunelveli districts have over 70 per cent of the rural population living in big villages with over 400 houses each.

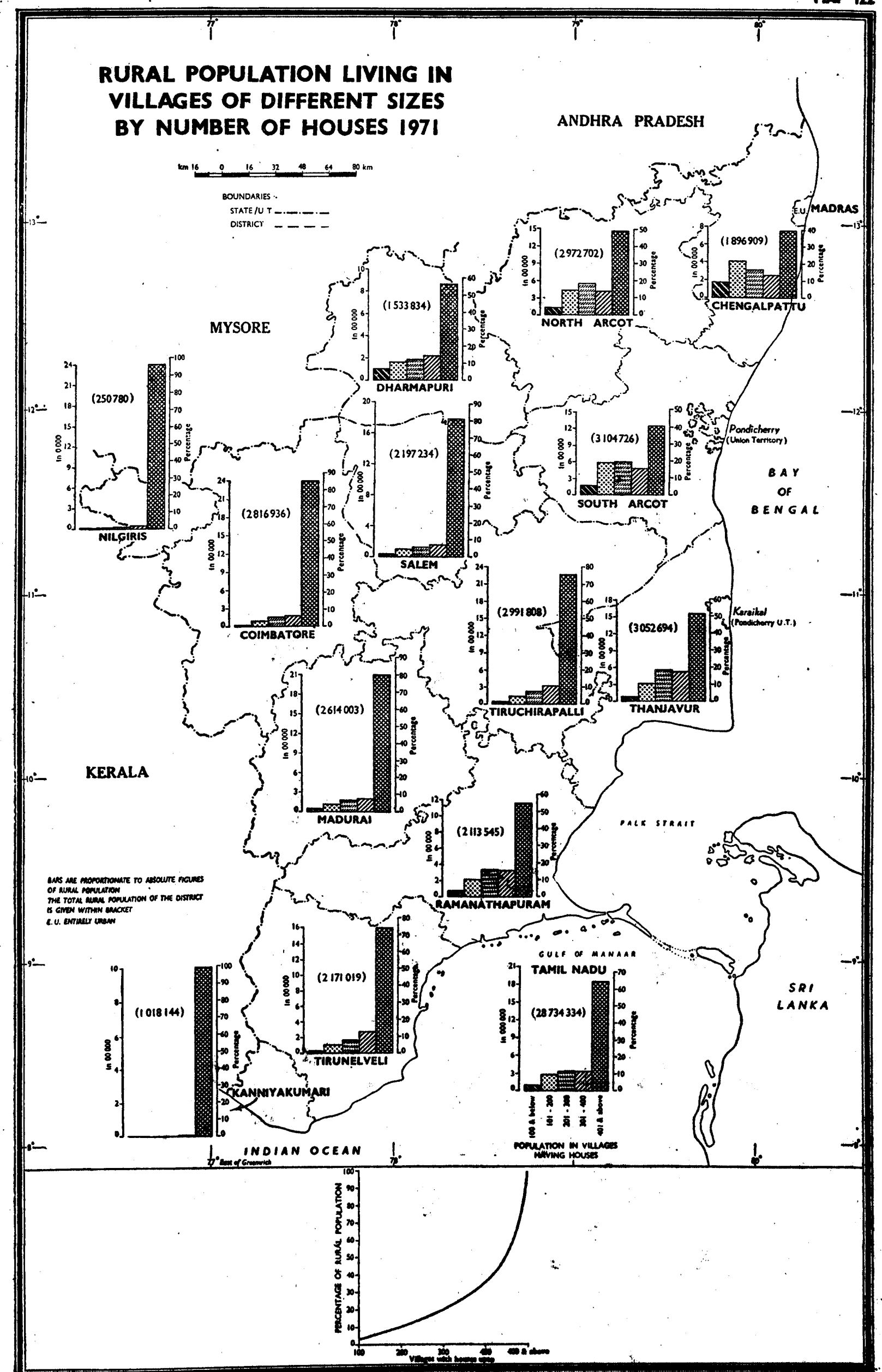
In small sized villages with 101-200 houses, the percentage of rural population is the highest in Chengalpattu district viz. 21.48 as in the case of the villages with 100 and below houses. The districts with comparatively high proportion of rural population in the villages with 201-300 houses is South Arcot (19.74 per cent) while in the other size of 301-400 houses, Thanjavur with 17.12 per cent has the highest proportion among the districts and Ramanathapuram and South Arcot have over 15 per cent of rural population in this size class. Generally in the districts of Salem, Coimbatore, Nilgiris, Madurai and Kanniyakumari, smaller villages with less than 400 houses have less than 10 per cent of rural population in each size.

The percentage distribution of rural population living in the village of the five sizes discussed above are given below for State and districts,

Unit	Percentage of rural population living in villages with Census houses				
	100 and below	101-200	201-300	301-400	Above 400
1	2	3	4	5	6
TAMIL NADU	3.12	9.36	11.80	11.59	64.13
Madras	..	- Entirely urban -			
Chengalpattu	9.11	21.48	16.68	13.32	39.41
North Arcot	4.31	14.66	18.27	13.91	48.95
South Arcot	5.32	19.09	19.74	15.58	40.27
Dharmapuri	6.86	10.86	11.96	14.14	56.18
Salem	1.73	4.63	5.83	6.91	80.90
Coimbatore	0.70	3.00	5.15	6.09	85.06
Nilgiris	0.49	0.60	1.23	1.41	96.27
Madurai	1.85	4.20	6.51	7.30	80.14
Tiruchirapalli	1.35	4.68	7.47	10.73	75.77
Thanjavur	2.80	10.50	18.42	17.12	51.16
Ramanathapuram	3.11	10.45	15.97	15.68	54.79
Tirunelveli	1.35	4.88	7.63	12.22	73.92
Kanniyakumari	N	0.09	—	0.53	99.38
N - Negligible					

A line graph drawn with reference to the cumulative percentages of rural population of Tamil Nadu living

in the five ranges from small to big sized villages is also presented below the main map.



RURAL HOUSEHOLDS BY NUMBER OF ROOMS OCCUPIED 1971

This map depicts the number of living rooms available in the rural households in the districts. The extent of rural households occupying one, two, three and more than three rooms is shown by colour-shades in a rhombus-shaped diagram, (divided into 25 equal parts), drawn proportionate to the rural households in each district. Data on the number of living rooms occupied by each household was gathered during the houselisting operation in 1970.

A living room for purposes of census houselisting has been defined as follows. A room should have four walls with a doorway, with a roof over head and should be wide and long enough for a person to sleep in, i.e., it should have a length of not less than two metres and a breadth of at least one and half metres and a two metres in height. An enclosed room, however, which is used in common for sleeping, sitting, dining, storing and cooking etc. should also be regarded as a room. An unenclosed verandah, kitchen, store, garage, cattle-shed, latrine and rooms in which a household industry such as handloom is located which are not normally usable for living or sleeping, etc. are excluded from the definition of a room.

Out of 5.90 million rural households in the State 3.87 million representing 65.61 per cent have only one living room. Most of the rural families live in single roomed tenements or huts and the above figure only corroborates this well known phenomenon. While 23.64 per cent of rural households have two living rooms, only 6.66 per cent have three rooms. About four per cent of the households have more than three rooms.

Rural households with a single living room form a high ratio of nearly 75 per cent in Tiruchirapalli district. The districts of Thanjavur (70.77 per cent), Salem (70.71 per cent) and Dharmapuri (70.01 per cent) are the other

districts having a very high percentage of rural households with only one living room. Kanniyakumari district has the lowest percentage of single-roomed households, viz. 31.93 per cent. In Nilgiris district also, one-roomed households form only 33.82 per cent of the total rural households of 49,030. Tirunelveli district too has a comparatively lower ratio of one-roomed households (51 per cent). Six districts have recorded 60 to 70 per cent of one-roomed households among the rural households.

Among households occupying two-rooms higher percentages are noticed in the districts of Kanniyakumari (31.93), Nilgiris (31.34) and Tirunelveli (31.29). Nine districts fall within the percentage range of 20-30. Tiruchirapalli alone has a low proportion of 18 per cent of such households with two living rooms only.

A high percentage of households occupying three rooms is recorded by Kanniyakumari (18.63) and Nilgiris districts (16.96) while Tirunelveli district has the third highest ratio of 11.38 per cent. All the other districts have less than ten per cent of three-roomed households.

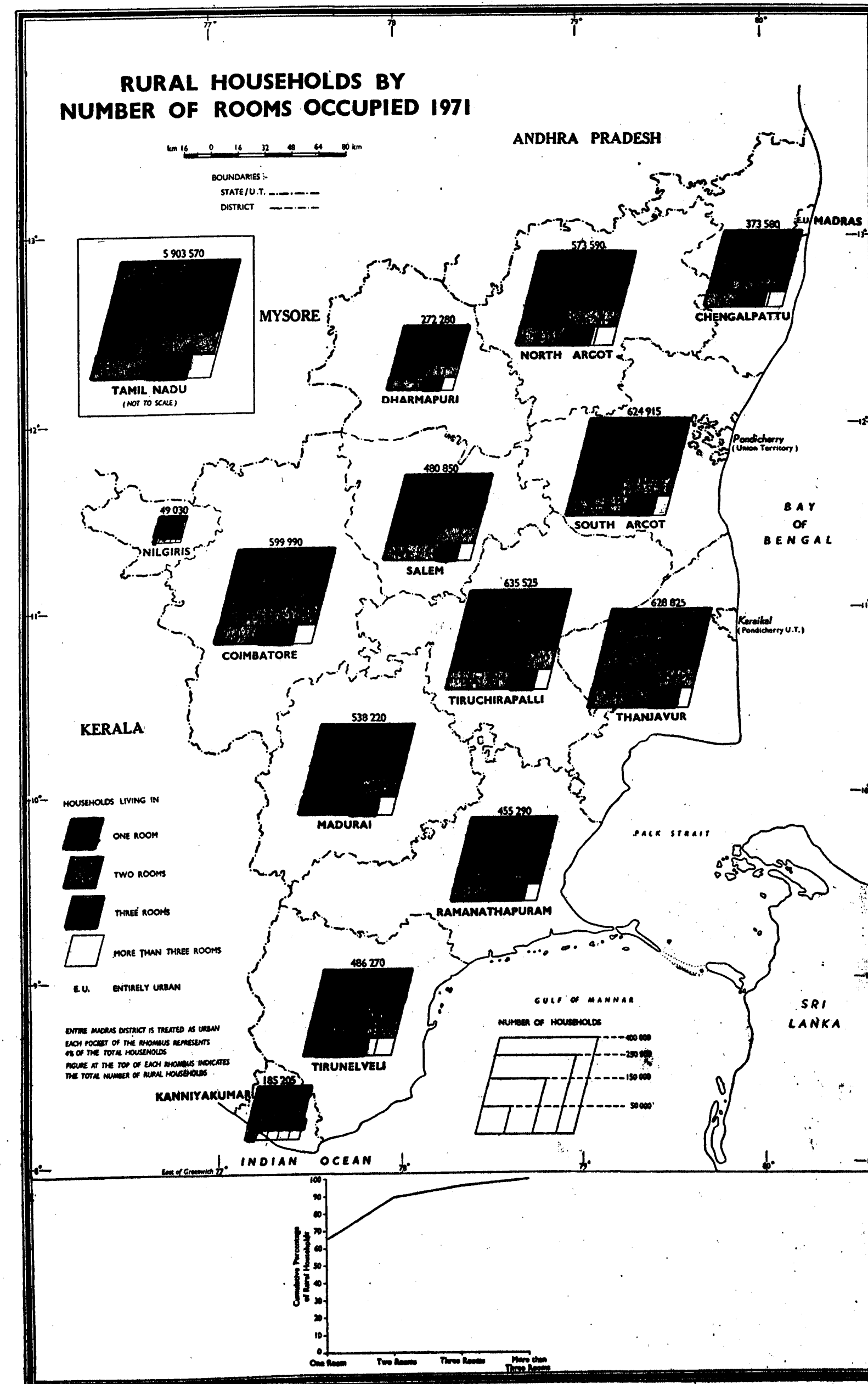
The lowest ratio of households with over three rooms is in Thanjavur district (2.13 per cent). The three districts of Kanniyakumari, Nilgiris and Tirunelveli have higher ratios of households with two rooms, three rooms and more than three rooms, when compared with the rest of the districts. It would appear from this that the housing facilities are somewhat better in the rural areas of these districts than in the rural areas of other districts.

The total number of rural households and the percentage distribution of rural households into households of one, two, three and above three rooms are given below :

Unit	Number of Rural households	Percentage of rural households with			
		One room	Two rooms	Three rooms	More than three rooms
1	2	3	4	5	6
TAMIL NADU ..	5,903,570	65.61	23.64	6.66	4.09
Madras ..	..	- Entirely Urban -			
Chengalpattu ..	373,580	64.97	24.06	6.28	4.69
North Arcot ..	573,590	67.83	21.81	5.76	4.60
South Arcot ..	624,915	69.21	23.34	4.87	2.58
Dharmapuri ..	272,280	70.01	20.85	5.46	3.68
Salem ..	480,850	70.71	21.04	5.21	3.04
Coimbatore ..	599,990	64.23	24.80	7.00	3.97
Nilgiris ..	49,030	33.82	31.34	16.96	17.88
Madurai ..	538,220	66.75	24.04	5.89	3.32
Tiruchirapalli ..	635,525	74.69	18.00	4.66	2.65
Thanjavur ..	628,825	70.77	21.58	5.52	2.13
Ramanathapuram ..	455,290	63.81	26.81	6.64	2.74
Tirunelveli ..	486,270	51.00	31.29	11.38	6.33
Kanniyakumari ..	185,205	31.93	31.93	18.63	17.51

A line graph showing the cumulative percentage of rural households having one, two, three and more than three rooms is also presented below the main map. It may be observed from this graph that only a little

over 10 per cent of rural households possess more than two living rooms and most of the households have only one or two rooms.



URBAN HOUSEHOLDS BY NUMBER OF ROOMS OCCUPIED 1971

This map shows the urban households divided into one, two, three and more than three-roomed households and is similar to the presentation of the previous map. Proportionate parallelograms have been drawn for the districts with reference to their urban households, and these have been divided into 25 equal parts and depicted in colour to represent the households with varying number of rooms.

Urban households in the State number 2.26 millions out of which 1.23 millions (54.53 per cent) occupy one-room. Roughly every fourth urban household possesses two-rooms, while only one in ten possesses three rooms. About nine per cent of urban households have over three living rooms under their occupation. The highest percentage of one-roomed households in urban areas is noticed in Thanjavur district (62.16). The only other district which shows over sixty per cent in this regard is Madurai (61.12). The lowest percentage of one-roomed household is in Kanniyakumari district (30.85) while Nilgiris (42.44 per cent) as well as Tirunelveli (44.64 per cent) districts have also low ratios. In nine of the fourteen districts, 50 to 60 per cent of urban households have only one living room.

The percentage of households having two-rooms ranges from 23.92 in Thanjavur to 28.49 in Nilgiris district. The percentage of urban households with two living rooms is 27 to 28 per cent in six districts. The percentage of three-roomed households is the highest in Kanniyakumari district (17.97 per cent). Tirunelveli district also has a comparatively higher percentage (15.27) in this regard. The percentage of urban households with three rooms ranges from 10 to 15 per cent in the districts of Madras, Chengalpattu, Dharmapuri, Salem, Coimbatore and Nilgiris.

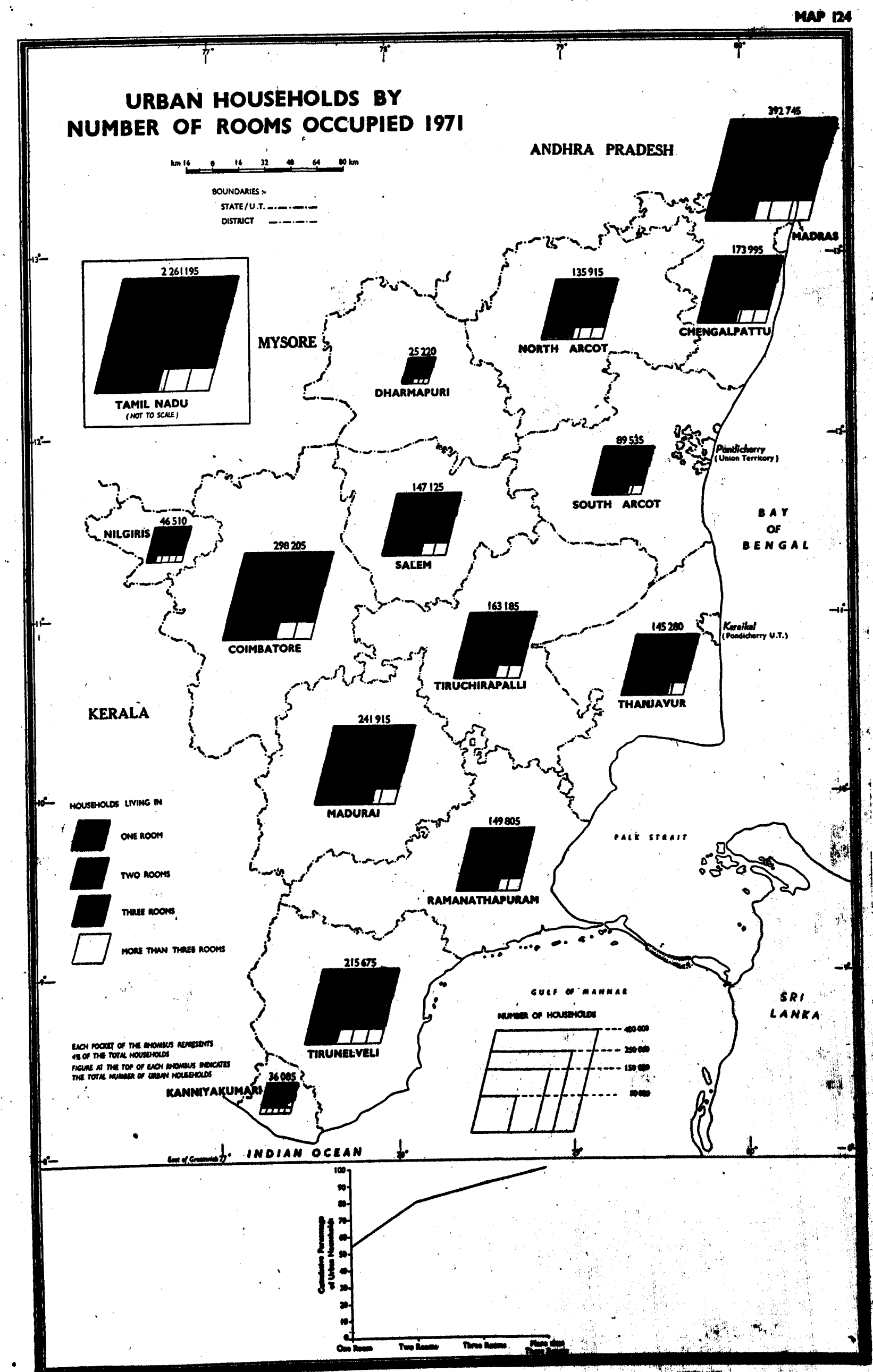
It is significant to notice that even the urban areas of Kanniyakumari district shows a very high proportion of households (23.76 per cent) with over three living rooms. This shows the comparatively better conditions of housing in the urban areas of this district. Nilgiris, Tirunelveli, Dharmapuri and Madras are the other districts having 10-15 per cent of households with more than three rooms. Thanjavur district has recorded the lowest percentage in this regard (5.18 per cent).

Data on the number of urban households, and the percentages of households with varying number of rooms are given below for State and districts.

Unit	Number of Urban households	Percentage of Urban households with			
		One room	Two rooms	Three rooms	More than three rooms
1	2	3	4	5	6
TAMIL NADU ..	2,261,195	54.53	25.98	10.60	8.89
Madras ..	392,745	53.82	24.55	11.00	10.63
Chengalpattu ..	173,995	54.85	25.75	10.36	9.04
North Arcot ..	135,915	57.37	24.06	8.64	9.93
South Arcot ..	89,535	59.25	27.93	7.38	5.44
Dharmapuri ..	25,220	50.20	25.18	12.55	12.07
Salem ..	147,125	53.09	27.32	11.51	8.08
Coimbatore ..	298,205	53.18	27.96	10.49	8.37
Nilgiris ..	46,510	42.44	28.49	14.17	14.90
Madurai ..	241,915	61.12	24.90	8.27	5.71
Tiruchirapalli ..	163,185	59.56	23.93	9.25	7.26
Thanjavur ..	145,280	62.16	23.92	8.74	5.18
Ramanathapuram ..	149,805	55.65	27.43	9.98	6.94
Tirunelveli ..	215,675	44.64	27.98	15.27	12.11
Kanniyakumari ..	36,085	30.85	27.42	17.97	23.76

A line graph showing the cumulative percentages of urban households having (i) one room, (ii) two rooms,

(iii) three rooms and (iv) more than three rooms, is presented at the bottom of the main map.



CENSUS HOUSES ACCORDING TO THEIR USES 1971

This map shows the number of Census houses put to different uses along with their percentages for districts. A census house "is a building or part of a building having a separate main entrance from the road or common courtyard or stair-case, etc., used or recognised as a separate unit." This map is drawn based on the data of the house listing operations conducted in February 1970 in Tamil Nadu. Only occupied census houses have been considered for purposes of this map.

Six important uses of census houses are shown in the form of vertical bar diagrams for the State and districts. A house is used predominantly for residential purposes and this is reflected by the high percentage of 86.95 under residence at the State level. The highest proportion of 90.90 per cent of houses under 'residence' is recorded by Dharmapuri district. South Arcot and Chengalpattu in the northern region have also higher percentages of 'residential' houses with proportions of 89.26 and 88.70 per cent respectively. The lowest percentage of houses under residence is in North Arcot District (83.04 per cent).

At the State level, houses used as residence-cum-shops/workshops from 2.71 per cent of all Census houses. Salem district has the highest ratio of 5.08 per cent of houses which are used partly as residence and

partly as shop or workshop including household industry. Coimbatore district comes second (4.57 per cent) in this category. Nilgiris has the least ratio of 0.97 per cent in this regard and it may be that climatic conditions here render the combined use of houses as residence as well as shop/workshop difficult.

Relatively high percentages of houses used as 'hostels, sarais, dharmasalas, restaurants', etc. are noticed in the southern districts of Thanjavur, Ramanathapuram, Tirunelveli and Kanniyakumari with Kanniyakumari topping them.

Madras with 6.03 per cent of houses used as shops, business houses and offices stands first in use of houses for such purposes among all the districts. This is understandable in view of its being a big industrial and commercial centre, besides being the State capital. Kanniyakumari district too has a high proportion of houses (4.20 per cent) under shops, business houses and offices. The districts with less than 2.00 per cent houses used as shops, business houses and offices are Salem, Dharmapuri and South Arcot.

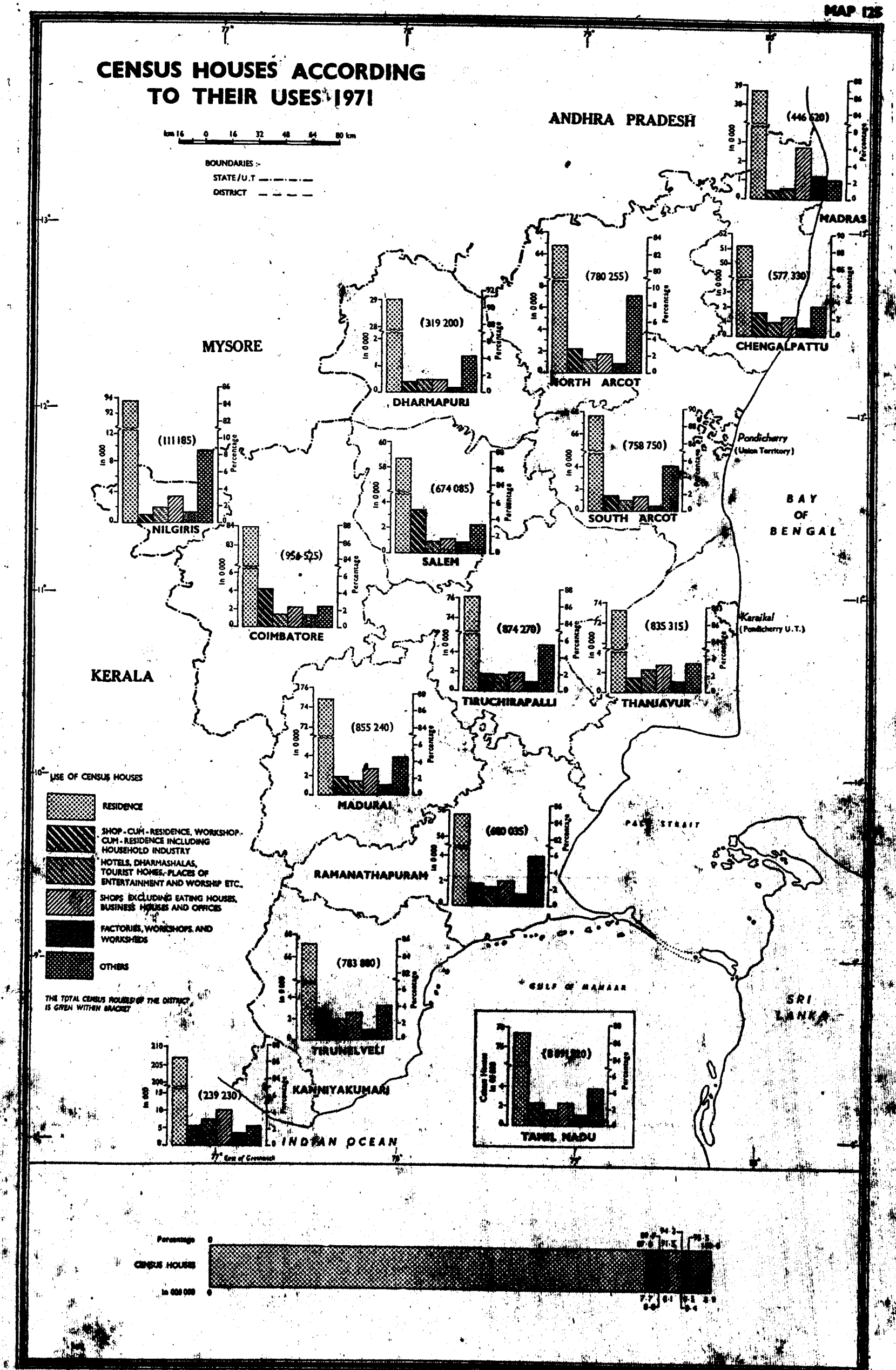
The percentage distribution of the census houses used for the different purposes in the State and districts is given below :

Percentage of Census houses used as

Unit	Residence	Shop cum-residence, workshop cum-residence including household industry	Hotels, sarais, dharmasalas, restaurants, sweet meat shops and eating places, places of entertainment and places of worship	Shops excluding eating houses, business houses and offices	Factories workshops and worksheds	Others
1	2	3	4	5	6	7
TAMIL NADU ..	86.95	2.71	1.84	2.72	1.25	4.53
Madras ..	86.66	1.02	1.24	6.03	2.75	2.30
Chengalpattu ..	88.70	2.81	1.67	2.30	1.01	3.51
North Arcot ..	83.04	2.85	1.62	2.24	1.12	9.13
South Arcot ..	89.26	1.83	1.31	1.66	0.62	5.32
Dharmapuri ..	90.90	1.24	1.53	1.52	0.57	4.24
Salem ..	87.12	5.08	1.39	1.71	1.33	3.37
Coimbatore ..	87.72	4.57	1.48	2.37	1.43	2.43
Nilgiris ..	84.24	0.97	1.80	3.13	1.28	8.58
Madurai ..	87.40	2.20	1.64	3.10	1.19	4.47
Tiruchirapalli ..	87.10	2.06	1.98	2.22	1.18	5.46
Thanjavur ..	87.72	1.68	2.66	3.22	1.27	3.45
Ramanathapuram ..	84.89	2.64	2.25	2.94	1.41	5.87
Tirunelveli ..	85.56	3.47	2.47	3.27	1.19	4.04
Kanniyakumari ..	86.57	2.29	3.10	4.20	1.49	2.35

The horizontal bar diagram below the map indicates the total occupied census houses in the State with break-up for the six important uses. The actual number of houses

and the percentages in the six classes are also presented in a cumulative manner.



MAP 126

URBAN HOUSEHOLDS LIVING IN RENTED HOUSES 1971

This map depicts the percentage of urban households living in rented houses in the districts. This percentage for the State as a whole is 53.15. A little more than half of the urban households do not own the houses they live in. The districts are arranged in six ranges. Three ranges are above the State's average.

The highest percentage of urban households living in rented houses is noticed in Madras City, closely followed by Nilgiris district. Coimbatore, Madurai and Tiruchirapalli districts also show proportions of urban households in rented houses above the State's average. In all, five districts are above the State's average. The lowest percentage is seen in Dharmapuri (37.70). Kanniyakumari (38.10) and North Arcot (38.95) also have low proportions. South Arcot (52.43) and Tiruchirapalli (53.90) are near the State's average.

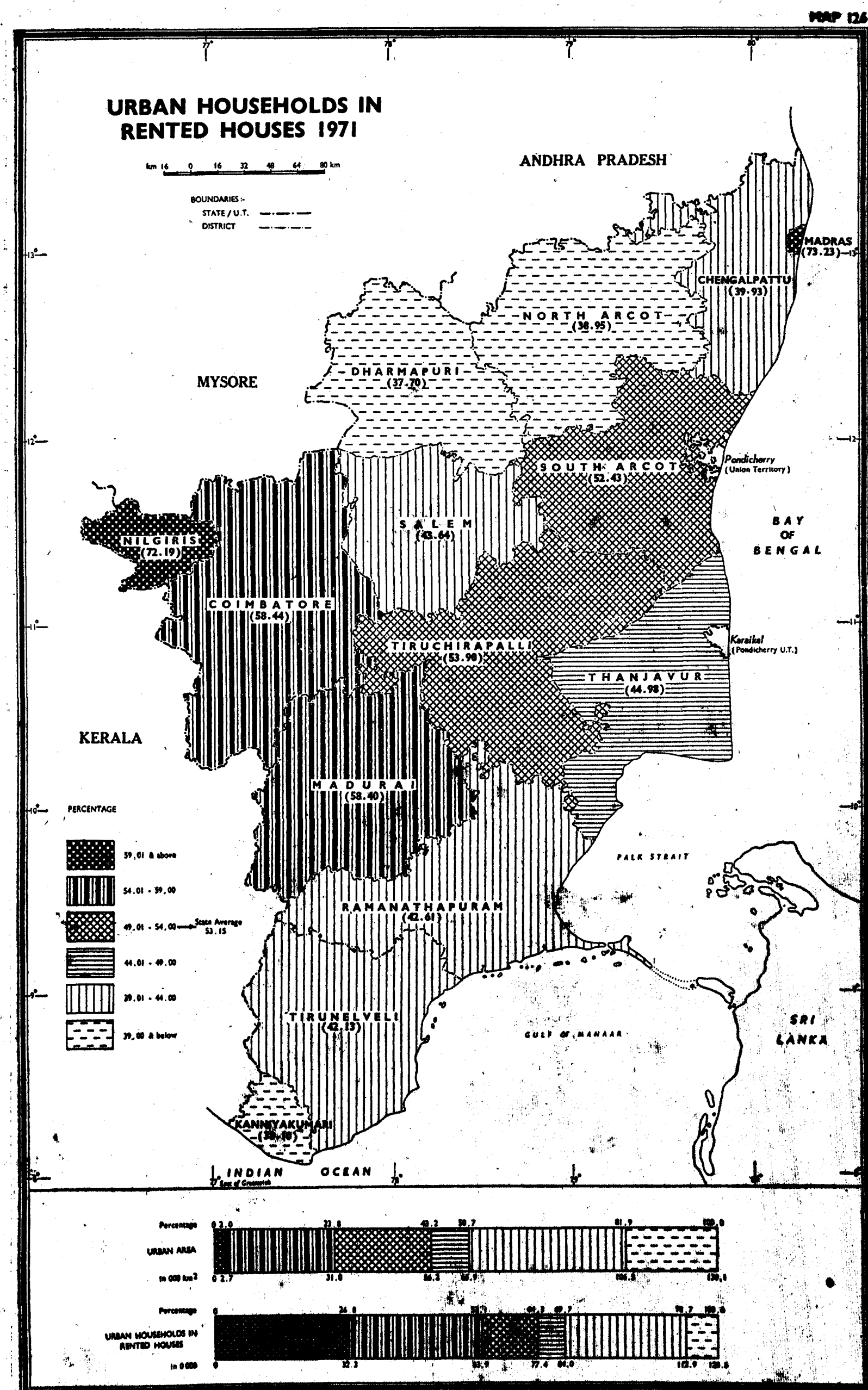
Districts where there is a concentration of urban population in towns of classes I & II fall in the higher ranges. Such districts are Madras, Coimbatore, Madurai and Tiruchirapalli. An exception to this can be seen in Nilgiris where there is less concentration of urban population in class I and class II towns and a higher proportion of households in urban areas residing in rented houses. In Kanniyakumari, there is a concentration of urban population in the class I town but it has a lower proportion of households in rented houses.

The total urban households, urban households living in rented houses, percentage of urban households living in rented houses and the percentage of urban population living in class I and class II towns for the State and districts are given below.

Unit	Urban households	Urban households in rented houses	Percentage of urban households in rented houses	Percentage of urban population in class I & II towns
1	2	3	4	5
TAMIL NADU ..	1,268,030	1,205,345	53.15	57.58
Madras ..	394,625	288,965	73.23	100.00
Chengalpattu ..	174,565	69,710	39.93	44.14
North Arcot ..	136,325	53,065	38.95	47.16
South Arcot ..	89,785	47,075	52.43	42.86
Dharmapuri ..	25,250	9,520	37.70	—
Salem ..	147,435	64,335	43.64	38.81
Coimbatore ..	298,825	174,620	58.44	54.67
Nilgiris ..	46,695	33,710	72.19	26.03
Madurai ..	242,510	141,635	58.40	55.26
Tiruchirapalli ..	163,895	88,345	53.90	57.24
Thanjavur ..	145,665	65,515	44.98	48.46
Ramanathapuram ..	150,170	63,985	42.61	42.91
Tirunelveli ..	216,215	91,085	42.13	37.32
Kanniyakumari ..	36,170	13,780	38.10	69.12

Two bar diagrams, one representing the urban area and another representing the urban households living in rented houses of the district covered in each range as

exhibited in the main map are shown. Both cumulative percentages and absolute figures are given on the upper and lower sides of the bar diagrams.



16. HEALTH

MAP 127

MEDICAL INSTITUTIONS PER 10,000 OF CENSUS HOUSES 1971

This map shows the number of medical institutions per 10,000 Census houses as at 1971 for each district. 'A census house' is defined as a building or part of a building having a separate main entrance from the road or common courtyard or stair-case, etc. used or recognised as a separate unit. It may be inhabited or not. It may be used for a residential or non-residential purpose or both. Only partly or fully occupied residential houses have been considered for the purpose of this map. The medical institutions include hospitals, attached with teaching institutions, district and taluk headquarters' hospitals, hospitals and dispensaries run by Corporations, Municipalities and Panchayats, private hospitals, primary health centres, railway hospitals, maternity and child welfare centres. The districts have been grouped into five broad ranges according to the proportion of medical institutions to census houses.

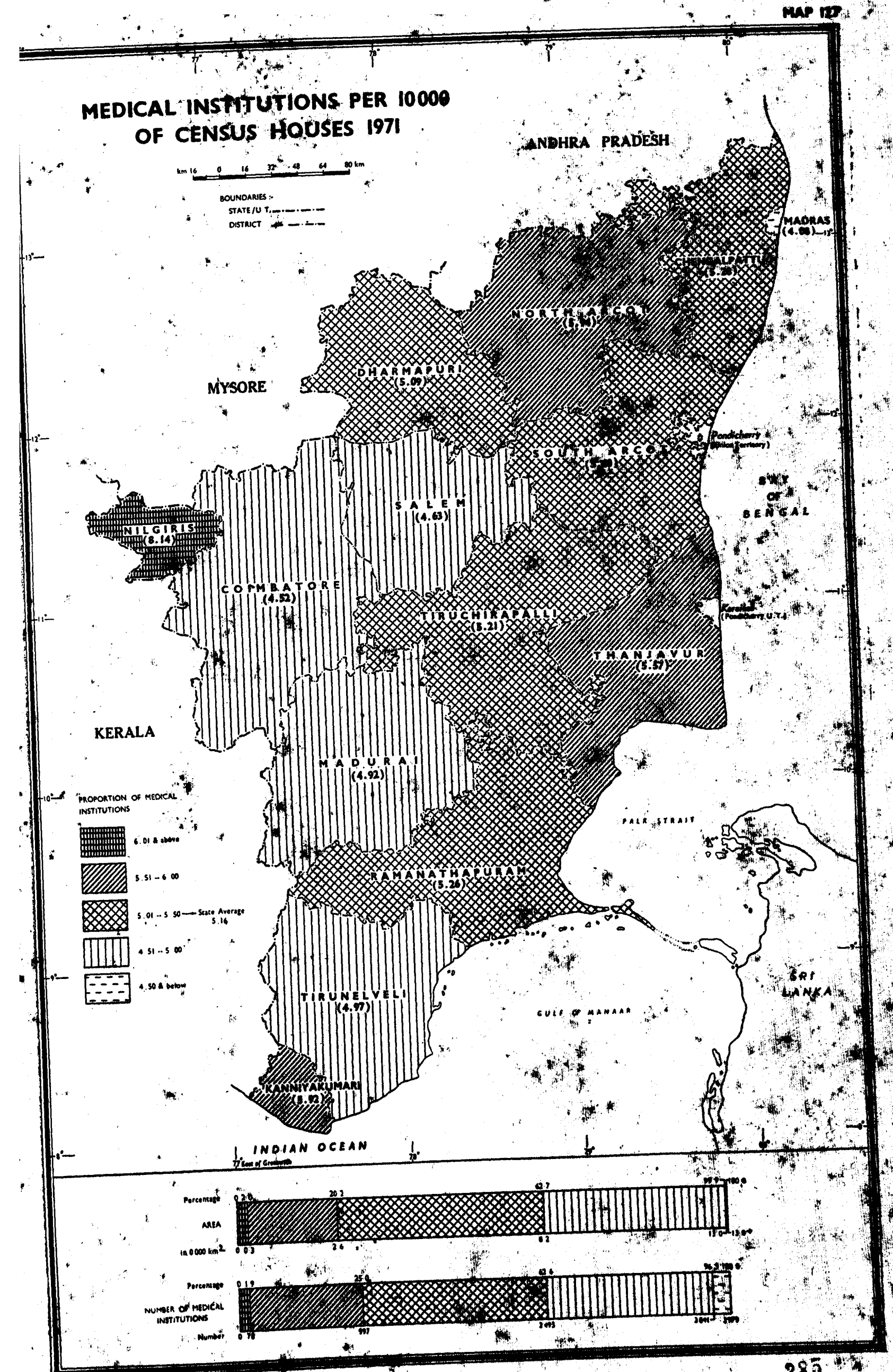
The proportion for the State as a whole is 5.16 medical institutions per 10,000 census houses. Eight of the 14 districts have higher ratios than the State average and the rest have lower ratios. The hilly district of Nilgiris shows the highest proportion of 8.14 medical institutions per 10,000 Census houses. No other district has shown a ratio above 6. The three other districts in which fairly good ratios are observed are North Arcot (5.94), Kanniyakumari (5.92) and Thanjavur (5.57). A very low ratio of 4.08 medical institutions per 10,000 houses is observed in the city District of Madras, which is industrialised and densely populated. Coimbatore district, which is also highly industrialised, has again a low ratio of 4.52, the second lowest among the districts. There are three more districts, Salem, Madurai and Tirunelveli which show ratios below 5 institutions per 10,000 census houses.

There are 3,979 medical institutions in the entire State as at 1971. The largest number of such institutions is in Thanjavur and Tiruchirapalli districts where there are 418 and 402 medical institutions respectively. Nilgiris, Kanniyakumari, Madras and Dharmapuri districts have less than 150 medical institutions each.

The number of medical institutions and occupied residential census houses and the ratio of the former to 10,000 census houses, for State and districts, are given in the following statement.

Unit	Number of medical institutions	Number of occupied residential Census Houses, 1971	Medical institutions per 10,000 Census Houses
1	2	3	4
TAMIL NADU	3,979	7,798,173	5.16
Madras ..	138	338,414	4.08
Chengalpattu ..	280	530,397	5.28
North Arcot ..	377	635,101	5.94
South Arcot ..	356	659,000	5.40
Dharmapuri ..	148	290,774	5.09
Salem ..	287	619,361	4.63
Coimbatore ..	386	853,550	4.52
Nilgiris ..	78	95,771	8.14
Madurai ..	338	687,356	4.92
Tiruchirapalli ..	402	771,112	5.21
Thanjavur ..	418	750,759	5.57
Ramanathapuram ..	310	589,206	5.26
Tirunelveli ..	337	678,025	4.97
Kanniyakumari ..	124	209,347	5.92

The two horizontal bar diagrams show (i) the geographical area in km² and (ii) the number of medical institutions in the districts in the five ranges from high to low. The actual figures of area and the number of medical institutions for each range as also their percentage are shown in the diagrams.



HOSPITAL BEDS PER 100,000 OF POPULATION 1971

This map shows the number of hospital beds per 100,000 of population in each district during 1971 and this is an important indicator of the State of medical services. The beds available in all big hospitals attached to medical colleges, district and taluk headquarters' hospitals, railway hospitals, other hospitals and dispensaries run by corporations, Municipalities, Panchayats and other local bodies, primary health centres, maternity and child welfare centres as also private hospitals have been taken into consideration for purposes of this map. All the districts have been brought into six ranges in accordance with their ratios.

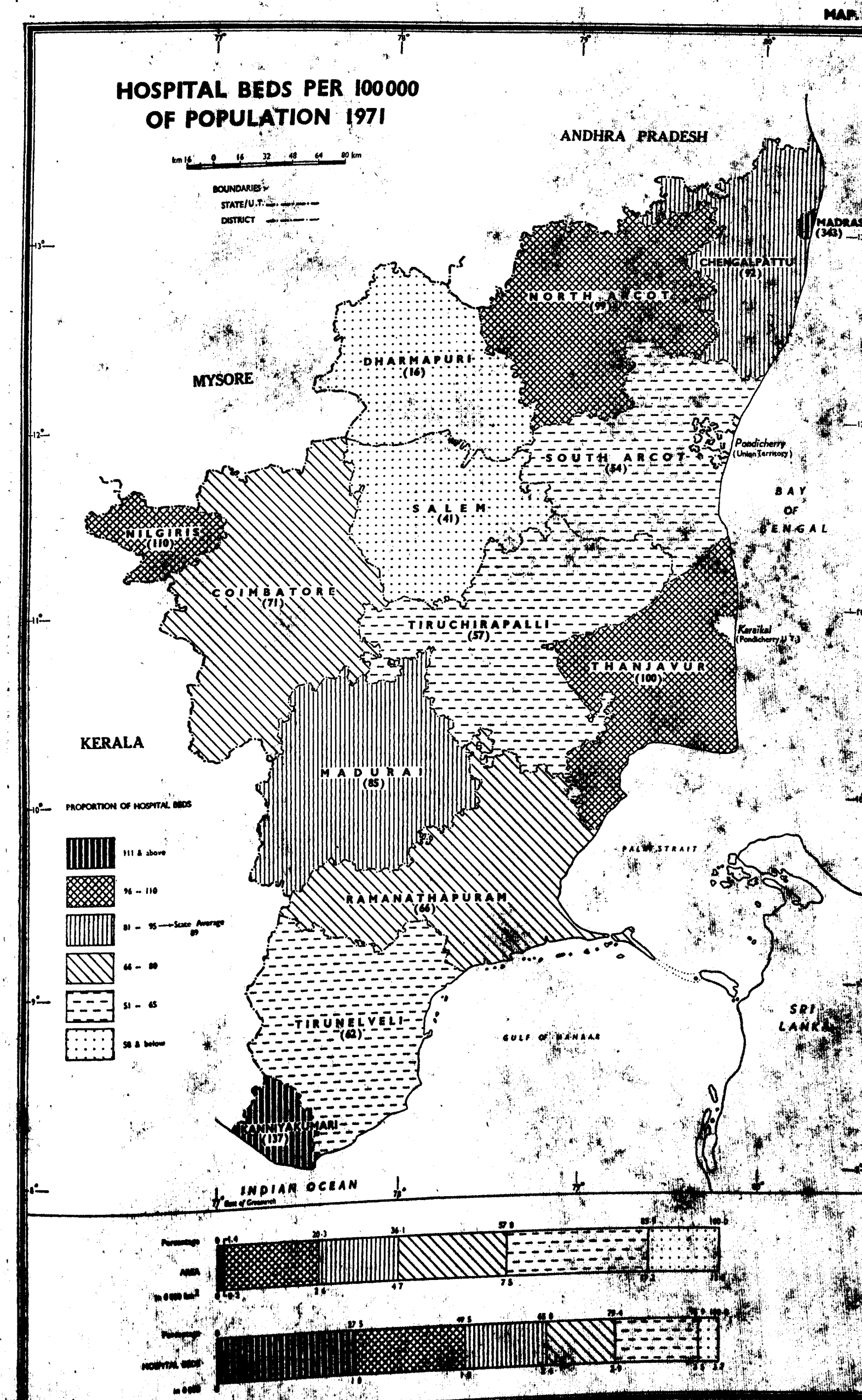
There are 89 beds per 100,000 population at the State level. The largest number of beds is in the State capital, Madras (8,471 beds) and the ratio of beds to population is the highest (343) here. The second highest ratio is in Kanniyakumari (137). The largest number of beds in Madras is accounted for by the Government hospitals attached to the three medical teaching institutions. Nilgiris and Thanjavur are the other districts having a ratio of 110 and 100 beds each per 100,000 of their respective population. North Arcot district has also a good ratio of 99. The district with the smallest ratio of 16 beds is Dharmapuri. Salem has 41 beds. The districts of South Arcot and Tiruchirapalli have also very low ratio of 54 and 57. These four districts with poor availability of hospital beds are all contiguous and form part of the last two ranges, situated in the northern part of the State.

Of the total hospital bed availability of 36,852 in the State, 8,471 (nearly 23 per cent) are in Madras. The districts of Thanjavur, North Arcot, Madurai and Coimbatore are the other districts with large number of bed strength ranging from 3,000 to 4,000 beds.

The 1971 population, available hospital beds and bed population ratio for State and districts are presented below :

Unit	Population 1971	Number of hospital beds, 1971	Number of beds per 100,000 of population
1	2	3	4
TAMIL NADU.	41,199,168	36,852	89
Madras ..	2,469,449	8,471	343
Chengalpattu ..	2,907,599	2,676	92
North Arcot ..	3,755,797	3,705	99
South Arcot ..	3,617,723	1,936	54
Dharmapuri ..	1,677,775	263	16
Salem ..	2,992,616	1,237	41
Coimbatore ..	4,373,178	3,122	71
Nilgiris ..	494,015	543	110
Madurai ..	3,938,197	3,341	85
Tiruchirapalli ..	3,848,816	2,182	57
Thanjavur ..	3,840,732	3,841	100
Ramanatha- puram ..	2,860,207	1,878	66
Tirunelveli ..	3,200,515	1,980	62
Kanniyakumari.	1,222,549	1,677	137

The area in km² and the hospital beds of the districts falling in the six ranges (from high to low ratios) are brought out in the two bar diagrams shown below the map. Actual figures and percentages have also been indicated in these diagrams.



MAP 129

REGISTERED MEDICAL PRACTITIONERS PER 100,000
OF POPULATION 1971

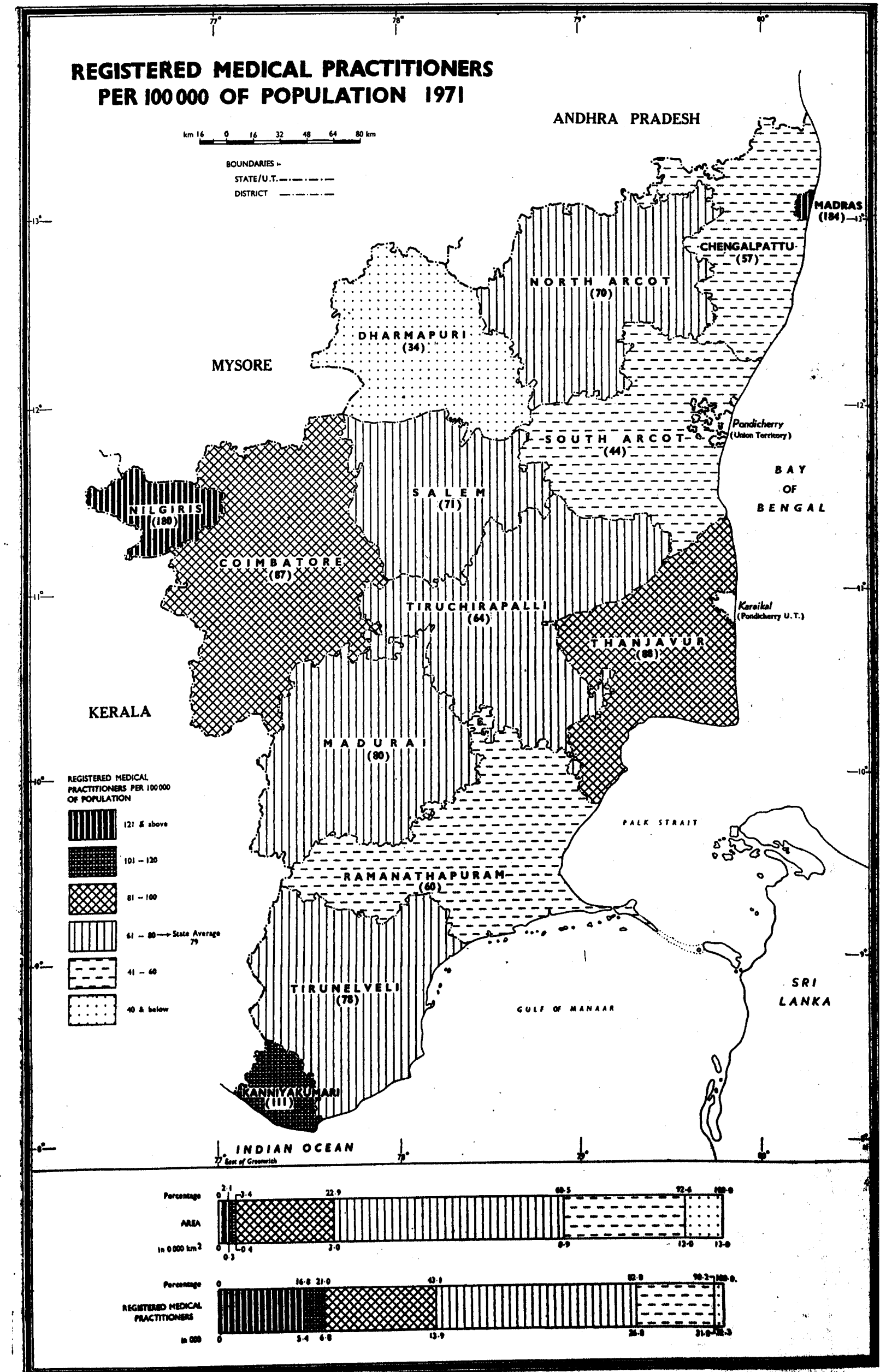
This map shows the ratio of medical practitioners per 100,000 population in the districts. Data on medical practitioners have been drawn from 1971 Census Table B-VI relating to occupational classification of persons at work other than cultivation. Physicians and surgeons belonging to the four well-known Medical systems prevailing in the country, viz. Allopathic, Ayurvedic, homoeopathic and unani, besides other medical workers like dental surgeons, pharmacists, dieticians, nutritionists, etc., have all been included in arriving at the ratio. All the 14 districts have been brought under six broad ranges, as in the map legend, on the basis of their ratios.

At the State level, we find that on an average there are 79 medical practitioners per 100,000 of population. More than double this ratio is registered in the City district of Madras (184) as also the hilly district of Nilgiris (180). The existence of big hospital attached medical institutions with modern equipment for treatment of diseases and ample facilities for further research, availability of a number of nursing homes and dispensaries and above all a large influx of patients from far and near are perhaps the important reasons for the presence of a large number of medical practitioners in Madras in comparison to its population. Nilgiris district with nearly half its population in urban areas is the most urbanised among the districts barring Madras, and its total population is only about half-a-million, the lowest among the districts. It has registered a high ratio of 180 medical practitioners per 100,000 population. The one other district which shows a ratio of over 100 medical practitioners, is Kanniyakumari where literacy is high and population is concentrated in big-sized villages. The backward district of Dharmapuri the least urbanised among the districts—has the lowest ratio of 34 medical practitioners per 100,000 persons. South Arcot district which also has a poor percentage of urban population has a low ratio (44) of medical practitioners to population.

Data on Census population, medical practitioners and the ratio of the latter per 100,000 of population are given below for State and districts :

Unit	Population	Medical practitioners	Number of Medical practitioners per 100,000 persons
1	2	3	4
TAMIL NADU.	41,199,168	32,346	79
Madras ..	2,469,449	4,535	184
Chengalpattu ..	2,907,599	1,658	57
North Arcot ..	3,755,797	2,615	70
South Arcot ..	3,617,723	1,595	44
Dharmapuri ..	1,677,775	574	34
Salem ..	2,992,616	2,130	71
Coimbatore ..	4,373,178	3,795	87
Nilgiris ..	494,015	889	180
Madurai ..	3,938,197	3,145	80
Tiruchirapalli ..	3,848,816	2,469	64
Thanjavur ..	3,840,732	3,365	88
Ramanathapuram ..	2,860,207	1,715	60
Tirunelveli ..	3,200,515	2,500	78
Kanniyakumari.	1,222,549	1,361	111

The geographical area of the districts covered in the six ranges from high to low as also the medical practitioners of these ranges are represented in two bar diagrams below the main map. The actual figures for the ranges as also their percentages are indicated in the diagrams in cumulative manner.



MAP 130

PRIMARY HEALTH CENTRES PER 100,000 OF POPULATION 1971

This map shows the proportion of primary health centres including maternity and child welfare centres to the total population in each district. The institutions are the basic health units under the community Development Scheme. These centres are now being run by panchayats and panchayat union councils spread throughout the State. Data on the health centres have been obtained from the Directorate of Rural Development of the Tamil Nadu Government. The districts have been grouped under six broad ranges according to their ratio of primary health centres and sub-centres to total 1971 Census population. Madras has no primary health unit.

Nilgiris has a very high ratio of 10.32 centres per 100,000 of population. The other districts which have high ratios of over 8.00 centres are all contiguous on the map. These are Ramanathapuram (8.64), Thanjavur (8.23) and Tirunelveli (8.15). The other districts with good ratios (of over 7.91 centres per 100,000 persons) are North Arcot, South Arcot, Salem and Tiruchirapalli. Madurai has the lowest ratio of 7.19 while Coimbatore has 7.23 and Dharmapuri 7.27.

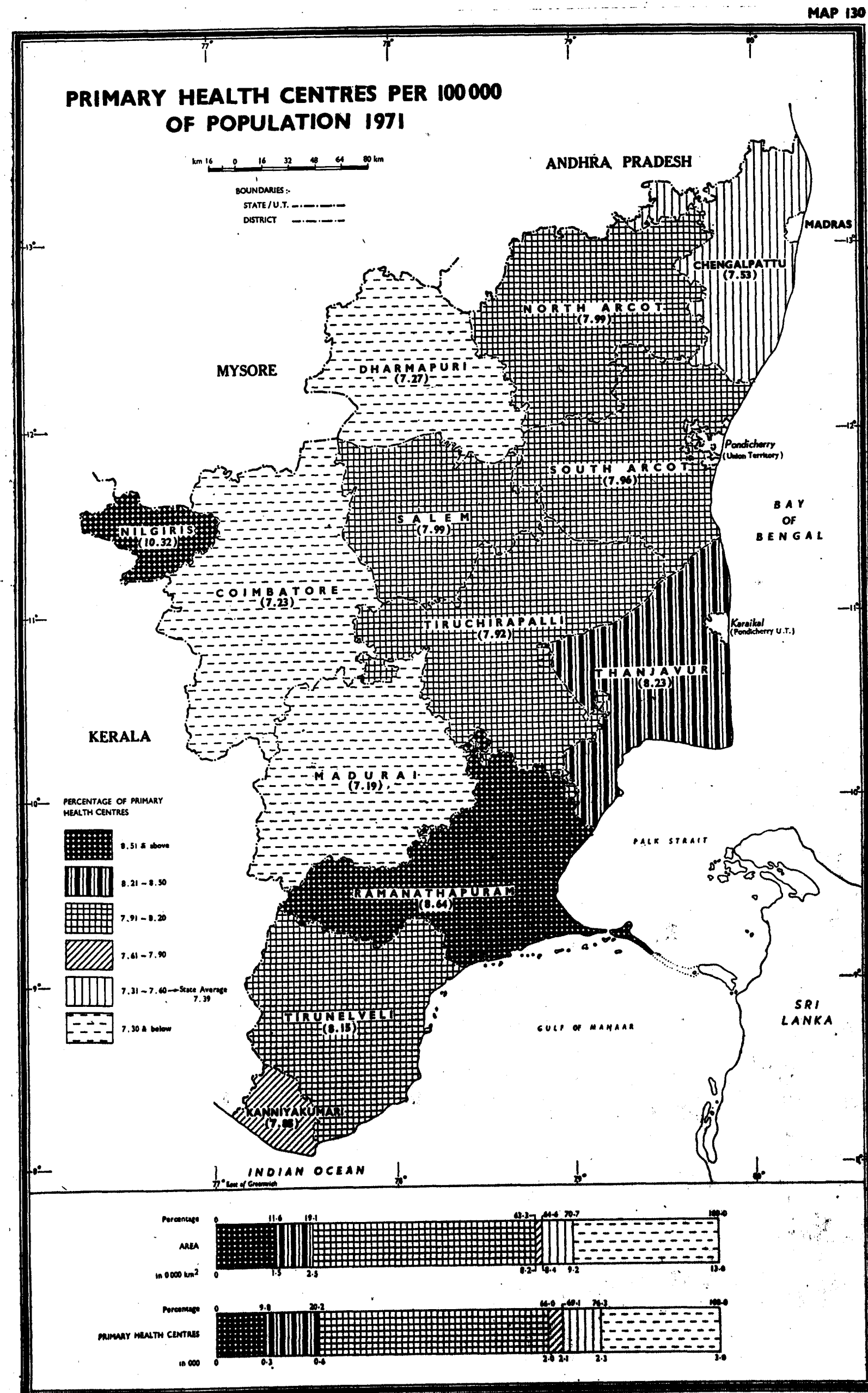
The total number of primary health centres including sub-centres in the State is 3,043. The largest number of 316 centres exist in each of the districts of Coimbatore and Thanjavur. The least is in Nilgiris district (51).

Kanniyakumari and Dharmapuri districts have 96 and 122 centres respectively.

The 1971 population, the number of primary health centres and sub-centres and the ratio of the latter to the former are shown for the State and districts in the following statement.

Unit	Population 1971	Number of primary health centres (including maternity and child welfare centres)	Number of primary health centres per 100,000 population
1	2	3	4
TAMIL NADU	41,199,168	3,043	7.39
Madras ..	2,469,449	..	..
Chengalpattu ..	2,907,599	219	7.53
North Arcot ..	3,755,797	300	7.99
South Arcot ..	3,617,723	288	7.96
Dharmapuri ..	1,677,775	122	7.27
Salem ..	2,992,616	239	7.99
Coimbatore ..	4,373,178	316	7.23
Nilgiris ..	494,015	51	10.32
Madurai ..	3,938,197	283	7.19
Tiruchirapalli ..	3,848,816	305	7.92
Thanjavur ..	3,840,732	316	8.23
Ramanathapuram ..	2,860,207	247	8.64
Tirunelveli ..	3,200,515	261	8.15
Kanniyakumari	1,222,549	96	7.85

The area in km² and the number of health centres in the districts falling under the high to low ranges depicted in the map are shown in two bar diagrams. The actual figures and percentages are presented in a cumulative manner in these diagrams.



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