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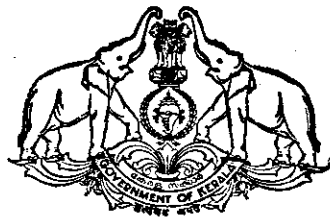
# KERALA IN MAPS



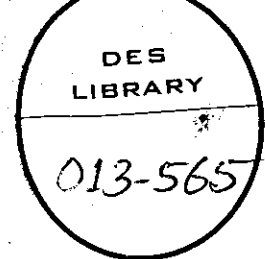
**BUREAU OF ECONOMICS & STATISTICS, GOVT. OF KERALA 1964**



# KERALA IN MAPS



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GOVERNMENT OF KERALA  
1964



## PREFACE

This is the second issue of "Kerala in Maps". In 1960 a publication "Kerala in Maps" presenting important statistical information about the State was released by the Department of Statistics. The data given in the publication mostly related to the year 1956-57. This edition presents important statistics for the year 1960-61, the last year of the Second Five Year Plan. It is proposed to bring out the next edition of the publication at the end of the Third Five Year Plan.

It is hoped that this publication will be of benefit to the Government Departments and the public.

Bureau of Economics and  
Statistics, Trivandrum,  
4th May 1964.

DR. P. K. GOPALAKRISHNAN,  
*Director.*

# KERALA IN MAPS

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## INTRODUCTORY NOTE

### I. General

Kerala State came into existence on 1st of November, 1956 consequent on the reorganisation of States. The State consists of the old Travancore-Cochin State excluding the taluks of Thovala, Agastheeswaram, Kalkulam, Vilavancode and a part of Shencottah Taluk transferred to the Madras State and the District of Malabar and Kasargod Taluk transferred from Madras State. The old Travancore-Cochin State was formed by the integration of the two princely States, Travancore and Cochin in 1949.

The State is situated in the south-western corner of India. It lies between 8° 18' and 12° 48' north latitudes and between 74° 52' and 77° 22' east longitudes. It is elongated in shape. It is flanked on the eastern side by the Western Ghats which form almost a continuous barrier except for the Palghat gap towards the middle. On the western side the State is bounded by the Arabian Sea. The coastal line from South to North is nearly 580 Kilometres. The breadth of the State varies from about 30 Kilometres in the extreme north and south to about 130 Kilometres in the middle. Both the Travancore-Cochin and Malabar Regions possess scenic beauty of the most variegated nature.

### II. Physical

The State can be divided into three natural regions viz., lowland, midland and highland. These regions form parallel belts, running across the length of the State.

The lowland (narrow coastal belt) with stretches of sand and numerous backwaters is suited for cultivation of paddy and coconut. Extensive paddy lands and numerous coconut plantations therefore vie with one another in this belt of land. Low cliffs occur in certain places along the palm fringed coast north of Kozhikode. The numerous backwaters along the coast are interconnected by a net work of canals affording cheap water communication from Trivandrum to Tirur (about 354 Kilometres). The important backwaters are Veli and Kadinamkulam (Trivandrum District), Paravur and Ashtamudi (Quilon District) and Kayamkulam and Vembanad, (Alleppey District) the last one being the biggest with an area of about 205 Sq. Kilometres. Sasthamcottah in Quilon District and Enamackal, Manakudi and Muriyad in Trichur District are fresh water lakes.

The midland region with hills and valleys presents an undulating tract of laterite soil cut across by numerous rivers. In this region

rice is the most common crop in the valleys while the hill-slopes and uplands are utilised for the cultivation of Tapioca, Cashew, Coconut, Ginger and Pepper.

The highland consists mainly of dense reserve forests. Forests form about 27% of the area of the State. The major forest produce are teak-wood, rose-wood and other kinds of hardwood and several varieties of soft wood. The important cash crops of the State viz., Rubber, Tea and Cardamom are grown in this area on a plantation scale.

The Western Ghats has an elevation of 1520 metres on the average, the height going upto about 2430 metres in certain places. Some of the important peaks in the Western Ghats are Anamudi (2690 metres), Mukurti (2550 metres), Nilgiris (2470 metres) and Anginda (2380 metres). Besides the Palghat gap referred to earlier, there are several other passes in the Western Ghats which though less important serve as channels of communication with the adjacent State of Madras.

The Geological formations met with in Kerala are the following three types viz., (i) recent deposits generally found along the coastal areas, (ii) old alluvium and laterite found in the interior and (iii) unclassified crystalline gneisses. Major portions of the State are of unclassified crystalline gneiss formations.

With the mountain ranges all along the eastern border precipitating heavy rains, the State has a good number of rivers originating in the ghats. There are 44 rivers running through the State. Out of these 41 rivers are west flowing. The other three are east flowing and all of them are tributaries of the Cauveri River. The average length of the rivers is calculated as 64 Kilometres with a catchment area of 518 Sq. Kilometres on the average. Bharathapuzha which flows through the middle of the State is the longest with a length of 250 Kilometres. Most of the rivers abound in hydro-electric potential.

The lowland areas of the State are the most densely populated, the density going as high as 2220 persons per Sq. Kilometre in certain taluks, followed by the midland and highland in that order.

### III Area and Population

Kerala is the smallest State in India with an area of about 38,855 Sq. Kilometres.

The position of Kerala among the various Indian States is presented in the following table.

Table—1

Name of State	Rank in population	% of Union's population	% of Union's area	Rank in area	Rank in density
Uttar Pradesh	1	16.81	9.65	4	5
Bihar	2	10.59	5.71	8	3
Maharashtra	3	9.02	10.08	3	8
Andhra Pradesh	4	8.20	9.03	5	7
West Bengal	5	7.96	2.87	13	2
Madras	6	7.68	4.27	10	4
Madhya Pradesh	7	7.38	14.54	1	13
Mysore	8	5.38	6.30	6	9
Gujarat	9	4.70	6.14	7	11
Punjab	10	4.63	4.01	11	6
Rajasthan	11	4.60	11.22	2	14
Orissa	12	4.00	5.11	9	10
Kerala	13	3.85	1.27	14	1
Assam	14	2.71	4.00	12	12
Jammu & Kashmir	15	0.81	..	..	..

The State has 1.27% of the total area of the Indian Union, excluding Jammu and Kashmir, Goa, Daman and Diu. Madhya Pradesh, the largest State in the Indian Union is eleven times the size of Kerala.

The population of the State according to the 1961 Census was 169.04 lakhs. This is 3.85% of the total population of the Indian Union, excluding Goa, Daman and Diu. Uttar Pradesh with 16.81% of the total population of the Indian Union (excluding Goa, Daman and Diu) is the most populous State in the Union and has a population of more than 4 times that of Kerala.

For administrative purposes the State is divided into nine Districts; Trivandrum, Quilon, Alleppey, Kottayam, Ernakulam, Trichur, Palghat, Kozhikode and Cannanore. The biggest District in area is Kozhikode with an area of about 6556 Sq. Kilometres according to the recent figures of the State Survey Department and the smallest District is Alleppey with an area of about 1834 Sq. Kilometres. The total number of taluks in the State is 55 and Revenue Villages number 1635.

The population of the State increased by 24.76 per cent in Kerala during the decade 1951-61. This was higher than the All India increase of 21.50%. The population has been steadily increasing during the past few decades. During the five decades 1901-1911, 1911-1921, 1921-1931, 1931-1941, and 1941-1951 the percentage increases registered in the population of the State were 11.75, 9.16, 21.85, 16.04 and 22.82 respectively.

The population has increased by 136.5 per cent during the period 1911 to 1961 and the rate of growth is considered to be one of the highest in the world.

The highest rate of increase among the Districts of Kerala during the last decade was shown by Quilon with an increase of 31.70 per cent. With an increase of only 13.51 per cent Palghat District recorded lowest rate of growth. The percentage increase in each of the Districts of Kerala during the decade 1951-61 is given below:-

Table—2

Trivandrum	31.38
Quilon	31.70
Alleppey	19.06
Kottayam	30.52
Ernakulam	21.55
Trichur	20.34
Palghat	13.51
Kozhikode	26.72
Cannanore	29.47

Kerala is the most densely populated State in India. The density of population according to 1961 Census was 435 persons per Sq. Kilometre and is far above the world density of population which is only 22 persons per Sq. Kilometre.

The distribution of taluks, villages and towns in the various Districts and the district-wise density of population are given in the subjoined table.

Table—3

District	Area Sq. Kilometres	No. of Taluks	No. of Revenue villages	No. of towns	Density per Sq. Kilometre
Trivandrum	2186	4	94	13	798
Quilon	4732	6	99	3	410
Alleppey	1834	7	99	8	988
Kottayam	6360	8	101	7	273
Ernakulam	3339	7	112	12	557
Trichur	2945	5	244	7	557
Palghat	5127	6	304	7	346
Kozhikode	6657	6	332	17	393
Cannanore	5675	6	250	18	314
STATE	38855	55	1635	92	435

The density of population is highest in Alleppey District with 988 persons per Sq. Kilometre and lowest in Kottayam District with 273 persons per Sq. Kilometre.

According to the 1951 Census population there were 1028 females for 1000 males. But according to the 1961 the sex ratio has declined and works out to 1022 females per 1000 males. The All India rate is 941 females for 1000 males. The number of females per 1000 males in the different States is given in the following table:-

Table—4

SEX RATIO (KERALA & OTHER INDIAN STATES)	
Kerala	1022
Orissa	1001
Bihar	994
Madras	992
Andhra Pradesh	981
Mysore	959
Gujarat	940
Maharashtra	936
Uttar Pradesh	909
Rajasthan	908
Jammu & Kashmir	878
Assam	876
Punjab	864
India	941

The sex ratio in Kerala State revealed by the previous censuses is given below:

Table-5

Year	SEX RATIO	Ratio
1901		1004
1911		1008
1921		1011
1931		1022
1941		1027
1951		1028

SOURCE: Superintendent of Census Operations, Kerala.

Within the State Trichur District showed the highest sex ratio with 1090 females for 1000 males. The lowest sex ratio was found in Kottayam District with 963 females per 1000 males. The sex ratio in each of the District is given below:

Table-6

SEX RATIO—DISTRICT-WISE

Trivandrum	1005
Quilon	996
Alleppey	1027
Kottayam	963
Ernakulam	997
Trichur	1090
Palghat	1086
Kozhikode	1012
Cannanore	1035

The number of litetate persons in Kerala per 1000 of population is 468 in 1961 as against 407 in 1951. The number of literate persons per 1000 of total population, males and females are given below:

Table-7

LITERACY—DISTRICT-WISE

District	Literates		
	No. of persons to 1000 persons	No. of males to 1000 males	No. of females to 1000 females
	Trivandrum	453	533
Quilon	505	578	432
Alleppey	569	638	501
Kottayam	566	624	505
Ernakulam	506	578	433
Trichur	485	552	423
Palghat	341	421	266
Kozhikode	406	511	302
Cannanore	413	520	310
STATE	468	550	389

Alleppey District leads while Palghat District comes last in respect of literacy. The rates of literacy mentioned above are inclusive of all age groups.

33.31 per cent of the total population of the State consisting of 47.20 per cent of the male population and 19.71 per cent of the female population constitute workers. 6.97 per cent of the total population are engaged in cultivation, 5.79 per cent in agricultural labour 2.88 per cent in mining, quarrying, livestock, forestry, fishing, hunting, plantations, orchard and other activities, 2.89 percent in household industry, 3.13 per cent in manufacturing other than household industry, 0.42 per cent in construction, 1.91 per cent in trade and commerce, 0.90 per cent in transport, storage and communications and 8.42 per cent in other services. 66.69 per cent are non-workers. The percentage of workers in each District among the total population classified by sex are given below:

Table-8

WORKERS—PERCENTAGE TO TOTAL POPULATION—DISTRICT-WISE

District	% of workers out of the total population	% of male workers out of the total male population	% of female workers out of the total female population
Trivandrum	31.00	46.05	16.04
Quilon	32.52	45.77	19.22
Alleppey	33.70	45.64	22.08
Kottayam	32.61	48.39	16.24
Ernakulam	33.19	47.02	19.32
Trichur	33.20	45.52	21.89
Palghat	38.81	51.47	27.14
Kozhikode	30.63	47.06	14.40
Cannanore	35.37	48.10	23.08

The percentage of the total population in the various industrial categories and the percentage of non-workers out of the total population in each District are given below:

Table-9.

District	As cultivator	As Agricultural labourer	In mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & allied activities	As household industry	In manufacturing other than household industry	In Construction	In trade and Commerce	In Transport, Storage & communications	In other services	Non-workers
Trivandrum	6.67	4.54	1.55	3.52	2.39	0.40	2.03	0.70	9.20	69.00
Quilon	10.32	4.47	1.98	2.87	5.53	0.29	1.49	0.70	4.87	67.48
Alleppey	6.05	6.45	1.94	5.76	3.10	0.33	2.01	0.98	7.08	66.30
Kottayam	6.54	4.91	8.23	1.50	1.96	0.51	1.66	0.64	6.66	67.39
Ernakulam	6.82	4.67	2.11	2.60	3.70	0.59	2.12	1.55	9.03	66.81
Trichur	5.50	5.06	2.48	3.21	3.08	0.44	2.04	0.96	10.43	66.80
Palghat	7.91	12.25	1.84	2.67	2.18	0.53	1.60	0.75	8.98	61.19
Kozhikode	4.88	4.32	3.49	1.99	2.56	0.38	0.03	1.06	10.02	69.37
Cannanore	8.59	6.18	2.24	2.30	3.67	0.36	2.13	0.70	9.20	64.63

There are four towns in the State with a population of over 1 lakh, according to the 1961 census. They are Trivandrum, Ernakulam, Kozhikode and Alleppey.

Of the other 25 Municipal Towns, 5 are in the population group 50,000 to 1 lakh, 15 in the group 20,000 to 50,000 and 5 in the group 10,000 to 20,000.

Of the total population of 169.04 lakhs, 143.50 lakhs live in villages and 25.54 lakhs live in the urban areas. Urban population thus forms 15.1 percent of the total population. The proportion of urban population is highest in Trivandrum District with 25.7 percent and lowest in Quilon District with 7.4%

As regards religion, 61.62% of the population were Hindus, 17.48% Muslims and 20.87% Christians. All other communities together constituted 0.03% of the population. This was according to the 1951 census. The figures according to the 1961 Census have not yet been released.

The total population of scheduled castes in Kerala State (1961 Census) is 14.22 lakhs, and the total population of scheduled tribes 2.08 lakhs. The scheduled castes and scheduled tribes together constitute 9.64% of the population. Scheduled castes are mostly found in Quilon and Palghat Districts and the Scheduled tribes in Kozhikode and Cannanore Districts.

According to the 1951 census 46.40% of the population is dependent on non-agricultural operations. This may give the erroneous impression that the State is highly industrialised. The situation is however far from it. There are only a few large scale industries in the State. The organised industrial sector absorb only about 1% of the total population. The non-agricultural operations relate to handicrafts, trade, small-scale business and industry requiring only very low investment. Naturally the return is bound to be poor.

The burden of dependency on the earners in the State is very great. The average size of a family is about 6. For the population as a whole, for every 100 persons 28 are self supporting, 6 are earning dependents and 66 non-earning dependents. In the case of females, however, 12.5% are self supporting, 7.1% are earning dependents and 80.4% are non-earning dependents. The burden of dependency is highest among agricultural labourers. These figures are according to the 1951 Census. The figures for 1961 Census are yet to be released. According to the 1951 census Malayalam was the mother tongue of 93.5% of the population and Tamil the next important language spoken by 4.4% of the population. The remaining 2.1% spoke other languages. The 1961 Census data in this respect have not yet been released.

#### IV. Urbanisation in Kerala

Urbanisation, in its broadest sense, means a change over from the agricultural economy to a non-agricultural one. The concept of rural area is linked with the predominance of agricultural workers and with persons having agricultural and allied occupations as the principal means of livelihood. The uneconomic size of the agricultural holdings and the increase in the number of persons taking to

agricultural occupations result in a poor per capita income in the rural area. Further increase in the population and the lack of fresh avenues in the rural area for employment of this additional population lead to further lowering down of the per capita income. The comparatively better returns from the non-agricultural pursuits and the widening scope of employment in the urban area persuade the people to migrate to the urban area ultimately resulting in the extension of the urban area. The growth in the number of towns shows indirectly that the nature of the economy of that region is changing from one of agriculture to non-agriculture.

The concept of town was not uniform for all the Censuses. It changed from Census to Census and its application differed from State to State. In the 1961 census an attempt was made to adopt a uniform concept of town for all the States in India.

In the 1951 census the standard adopted for the classification of a place as town was that it should have not less than 5,000 inhabitants possessing distinct urban characteristics. This was modified in the 1961 census. According to the 1961 census, a place is classified as a town if there is a minimum population of 5,000, a density of not less than 1000 persons per Sq. mile and atleast 75% of the population engaged in non-agricultural pursuits. This change in the concept of a town has led to the elimination of 37 places classified as towns in the 1951 Census from the category of towns and to the addition of 35 new towns. Thus in the 1961 census there are 92 towns including the Corporations, Municipal and non-municipal towns and the Cantonment.

Prior to the 1961 Census there was only one Corporation namely Trivandrum. Subsequently Kozhikode was also declared as a Corporation thus bringing the total number of Corporations to 2. There were only 18 Municipal towns in 1901 and the number has risen to 29 including the two Corporations.

*Area and Population of the Urban area in the State:* The urban area in the State comprises the two Corporations, twenty-seven Municipal towns, sixty-two non-municipal towns and one Cantonment.

As per the 1961 Census the population of the State was 1,69,03,715 of which 15.11% was in urban areas. In 1951, the percentage of urban population to the total population of the State was 13.48. During the period 1951-61 the urban population has increased recording a percentage rise of 39.89.

The urban male population in 1961 was 15.34% of the total male population in the State while the corresponding percentage was 13.72 in 1951. The percentage of female population residing in the urban area in 1961 was 14.88 of the total female population in the State while in 1951 the corresponding percentage was 13.24.



In the table given below the District-wise break-up of the population and the percentage of the urban population in Kerala are given (1961 Census).

Table—10

District	Population			% of urban population to total in the District
	Total (Lakhs)	Rural (Lakhs)	Urban (Lakhs)	
Trivandrum	17.44	12.96	4.48	25.69
Quilon	19.41	17.97	1.44	7.42
Alleppey	18.11	15.01	3.10	17.12
Kottayam	17.33	15.67	1.66	9.58
Ernakulam	18.60	14.65	3.95	21.24
Trichur	16.40	14.54	1.86	11.34
Palghat	17.77	16.05	1.72	9.68
Kozhikode	26.17	21.84	4.33	16.55
Cannanore	17.80	14.80	3.00	16.85
STATE	169.03	143.49	25.54	15.11

The percentage of the urban population to the total population of the District was maximum in Trivandrum District with 25.69 and minimum in Quilon District with only 7.42. In Alleppey, Ernakulam, Kozhikode and Cannanore Districts more than 15% of the population in the District reside in the urban areas.

In regard to literacy, urban area in the State was found to have 549 literates for every 1000 persons and rural area only 454 for every 1000 persons. Comparing the standards in literacy in the urban area of the Districts, it is seen that Kottayam District heads with 667 literates for every 1000 persons and Palghat occupies lowest position with only 442 literates for every 1000 persons.

Classifying the population by workers and non-workers, the percentage of workers out of the total population was 29.57 in the urban area and 33.98 in the rural area. In respect of the percentage of workers to total population in the urban area, Palghat District held the first position with 32.40% and Kozhikode District the last with only 28.22%.

The sex ratio in the rural area of the State was 1027 females for every 1000 males while in the urban area it was only 991 females for 1000 males.

*Corporations and Municipal towns.*—Among the Corporations and Municipal towns in the State Trivandrum Corporation is found to have the maximum population with 2,39,820 persons in the 1961 Census followed by Kozhikode with 1,92,520 persons. There are two more Municipal towns in the State having a population more than one lakh. They are Alleppey and Ernakulam. Among the Municipal towns, Palai is found to have the lowest population figure. It is only 15,460 persons.

In respect of area, Alleppey Municipal town is found to cover the largest area with

46.78 sq. Kilometres followed by Trivandrum Corporation with 44.52 Sq. Kilometers. Fort Cochin is the smallest Municipal town and its area is only 2.80 Sq. Kms.

According to the 1951 Census the density of population in the urban area of the State was maximum in the Fort Cochin Municipality with 11,423 persons per Sq. Kilometre followed by Mattancherry with 10,607 and it was minimum in Shertallai town with only 450 persons per Sq. Kilometre. The density of population was also higher than 3,800 persons per Sq. Kilometre in Trivandrum and Kozhikode Corporations and Quilon, Trichur, Ernakulam, Tellicherry and Cannanore Municipal Towns.

In the 1961 Census also the relative positions of the Municipal towns in respect of the density of population is found to be the same except for the change that instead of the Shertallai Municipal town it is the Palai town that has the lowest density of population. The lowest density in respect of Municipal towns in 1961 was 1062 persons per Sq. Kilometre as against 450 persons per Sq. Kilometre in 1951. The maximum density of population in the 1961 Census was 12,527 persons per Sq. Kilometre while it was only 11,423 persons per Sq. Kilometre in the 1951 Census.

Comparing the population figures for the 1901 and the 1961 Censuses the variation is found to be most striking in the case of Trivandrum Corporation. In the course of sixty years, from 1901 to 1961 the Trivandrum Corporation has recorded an increase in the population by 1,81,940 (97.33%) followed by Kozhikode with an increase of 1,15,540 persons (72.79%). In terms of percentage increase during the sixty years, Kayamkulam Municipal town has recorded the maximum percentage with 676 and Cannanore Municipal town the minimum with only 59. This percentage increase in the population is also found to be significant with more than 400% in Quilon, Alleppey and Ernakulam towns. In the Fort-Cochin, Parur, Chittur, Palghat and Tellicherry Municipal towns the percentage increase ranged from 50 to 100. The other Municipal towns occupy intermediary positions in respect of percentage increase in the population.

The increase in the area of the town is significant in the Quilon, Kayamkulam, Alleppey and Ernakulam towns.

*Non-Municipal towns (excluding the Cantonment):* The following table gives the distribution of the non-municipal towns in the State with respect to their population as in the 1961 Census:

Table—II

Size of population	Number of towns (Non-municipal towns)
5000—10000	18
10000—15000	18
15000—20000	10
20000—25000	9
25000—30000	3
30000—35000	3
35000—40000	1
40000 and above	..
TOTAL	62

## V. Climate and Rainfall

The whole of Kerala enjoys an equable climate. Temperature varies from 69°F to 99°F. As stated earlier the State is topographically divided into three natural regions viz. the highland, midland and the lowland. The highland region, the climate of which is cool and bracing is having a rainfall which varies from about 2500 m. m. in the south to about 5000 m. m. in the north. In the midland area the rainfall ranges from about 1400 m. m. to 4000 m. m. while in the lowland region it varies between 900 m.m. in the extreme south to 3500 m.m. in the north. Kerala receives the benefit of both the South-west and North-east monsoons, as it is guarded by the Arabian sea on the west and the western ghats on the east. The rainfall is heaviest during the South-West monsoon period (May to September). Nearly two-thirds of the annual rainfall are received during this period.

There is a high percentage of humidity in the coastal area—as high as 95% during the month of August. Even during the dry months of December and January the percentage of humidity seldom goes below 60. Humidity and temperature show a progressive decline as one goes from the coastal belt to the western ghats.

There are no well defined seasons in Kerala as in the temperate zone. The two main seasons in Kerala are the dry season from December to May and the wet season from June to November.

As regards geographical distribution of rainfall, it can be said that there is progressive increase from the South to the North. Even though the State is in receipt of the benefit of both the monsoons this does not rule out the possibility of the seasonal distribution of rainfall being unfavourable to agriculturists. Heavy floods which do occur due to heavy rains usually cause substantial damage to crops grown on the banks and basins of rivers.

## VI. Agriculture

The main peculiarity of agriculture in the State is the diversity of crops and the heterogeneity in cultivation. The highland is mainly under Plantation Crops and the lowland is monopolised by Paddy and Coconut while the midland is under a combination of both

major and minor crops often cultivated inter-mixed with one another. The important crops grown in the midland region are Pepper, Coconut, Arecanut, Ginger etc.

### 1. Soil.

Agriculture depends on climate as well as soil conditions. The soils of the State can be mainly classified into 7 types viz. (i) the hill and forest soil seen all along the eastern portion of the State; (ii) the sandy soil seen all along the coastal belt (iii) the laterite soil seen all along the midland region (iv) black soil which occurs as a patch on the eastern border of the Palghat District; (v) the peat or kari soil in Alleppey District; (vi) the alluvial soil which occurs along the eastern and southern parts of Vembanad lake in Ernakulam, Kottayam and Alleppey Districts and (vii) the red soil found in the extreme tip of Trivandrum Taluk.

In the hills of Kerala, the soil is mainly laterite, combined with humus which is good for tea and cardamom plantations. The soil in the midland area is loamy and gravelly. It is fertile and suitable for cultivation of Pepper, Ginger and Tapioca. The soil in the coastal strip is mainly sandy loam and is suited for coconut and paddy cultivation. Clay soil which is good for potteries, tile manufacturing and China ware is found in Kozhikode, Chalakudy, Alwaye and Kundara. Classification of soil in each District is as follows:

*Trivandrum District:* In the highland region the soil is clay loam resting on a bed of rock while in the midland and lowland regions the soil is clay loam of a laterite origin and sandy with laterite foundation respectively.

*Quilon and Alleppey Districts:* The soil in the coastal strip consists of pure crystalline sands. The swamp paddy fields of the Districts contain clay soils. The soils in the valleys and deltas of rivers are alluvial in nature and consists mainly of fine silt. The soils in the hills are loamy with an admixture of humus.

*Kottayam District:* In the lowland region the soil is swamp peaty. While in the hills it is loamy with great admixture of humus.

*Ernakulam and Trichur Districts:* The soil in the lowland consists mainly of recent deposits of sand and muds due to river alluvium. In the midland region, the soil is laterite varying in quality from rich loam to uncultivable laterite.

*Palghat, Kozhikode and Cannanore Districts:* In the narrow coastal belt the soil is arenaceous. In the plains the soil is of red ferruginous type composed of mixture of clay and river sand. The loamy soils of table land are laterite in their origin. In Wynad (highland) the soils are red ferruginous series.

### 2. Land utilisation.

*Total area:* The total area of the State according to professional survey is 38,85,511 hectares (38,855 Sq. Kilometres) while it is 38,58,523 hectares according to village

papers. This shows that only 99.3% of the area according to professional survey have been accounted in the village records.

The land area in the State can be classified according to use as follows.

Table—12

Sl. No.	Classification	% to total area (1960-61)
1	Net area sown (with crops)	49.9
2	Forests	27.4
3	Pastures & land under miscellaneous trees	6.5
4	Non-agricultural use	5.3
5	Un-cultivable waste	3.9
6	Cultivable waste	3.7
7	Fallows	3.3
	TOTAL	100.00

The largest District in regard to area is Kozhikode followed by Kottayam, Cannanore, Palghat and Quilon in that order. The other four Districts account only for 26.2% of the total area of the State. Alleppey is the smallest District covering only 4.8 per cent of the area.

**Forests:** The area under forest in the State was 10.56 lakhs hectares which accounted for 27.4% of the total of the State. Kottayam is the leading District in respect of forests covering 23.6% of the area under Forests. It is followed by Quilon and Kozhikode with 20.2 and 18.4 per cent of the total geographical area under forests. The area under Forest in Alleppey District was 0.05% only of the total forest area in the State. In the Malabar region private forests also exist and the area thereof is estimated to be about 1.2 lakhs of hectares.

**Land put to non-agricultural uses:** The percentage of the area categorised under land put to non-agricultural uses to the total area of the State is 5.3. A study of the distribution of the area coming under this category in the different districts shows that the area under non-agricultural uses is largest in Palghat District covering 29.9% of the total area under this category. The percentages in Cannanore and Kozhikode Districts are 19.8 and 12.8 respectively.

**Barren land, land under miscellaneous tree crops & pastures:** 3.9% of the total area of the State is classified as barren and uncultivable land. Such lands are extensively found in the Cannanore, Palghat and Kottayam Districts in that order.

Land classified as permanent pastures and grazing land covered 1.2% of the total area of the State and land under miscellaneous tree crops 5.3%

**Cultivable waste land and fallows:** The extent of cultivable waste land in the State covered 3.7% of the total area of the State. The maximum land available in this category is in Cannanore District. Kozhikode and Kottayam Districts closely follow Cannanore in this respect. In the Alleppey and Trivandrum Districts the extent of cultivable waste is not appreciable.

**Net area sown:** During 1960-61 the net area sown in the State was 19.24 lakhs hectares which accounted for 49.9% of the total area in the State. The area sown more than once was 4.25 lakhs hectares in 1960-61. The percentage of area sown more than once to net area sown in the State was 22.1%. The ratio of area sown more than once to net area sown was maximum in Trichur District (56.2%) followed by Alleppey (40.4%), Trivandrum (32.2%) and Palghat District (31.7%).

The pressure of population on land is very great in the State and this has led to excessive fragmentation and subdivision of holdings. The Census of land holdings and cultivation conducted in the former Travancore-Cochin area in 1955 revealed that 67% of the cultivators holdings are below one acre. Conditions in Malabar area also are not far different. The percentage of small holdings is comparatively more in the case of wet land producing paddy than in the case of dry and garden lands.

3. **Irrigation:** Almost all parts of the State receive rainfall for about 8 months in an year. But the intensity of rain varies from place to place as well as from month to month. There are 44 rivers in the State. Almost all of them originate from the western ghats and flow through the midlands and lowlands into the sea. Thus the rain water is collected and carried to all regions of the State. The rivers are full during the monsoon seasons and even in summer they do not dry up completely so that water is generally available for irrigation purposes almost all over the year. These aspects naturally lead one to the conclusion that there are adequate irrigation facilities in the State. But the following aspects which are of particular importance in the case of seasonal crops like cereals are to be considered in this context.

1. Month-wise distribution of rainfall may not always be favourable to agriculturists. Draining out of excess water is important in many parts of the State. Either or both the monsoons may fail.

2. Most of the rivers in the State are subjected to tidal action in their lower reaches between December and May and this results in the saline water entering the paddy fields in the lowland areas.

Of the total cropped area of 23.48 lakhs hectares 8.45 lakhs hectares are under food-grains and sugarcane which require irrigation facilities by controlled flow of water or lift irrigation or dewatering. Of this, 7.79 lakhs hectares are under paddy. All this area is not assured adequate irrigation facilities. The following are the major irrigation schemes which have been taken up by this State.

Scheme		Capital outlay (Rs. in lakhs)	Area proposed to be irrigated (hectares)
1. Peechi Scheme		235.00	17550
2. Chalakudy	Stage I	153.25	11490
	Stage II	60.00	8190
3. Cheerakuzhi		47.34	1620
4. Periyar valley		348.00	25620
5. Malampuzha		532.00	19260
6. Walayar		116.66	3240
7. Mangalam		97.51	3240
8. Meenkara		135.00	4330
9. Vazhani		107.57	3570
10. Neyyar	Stage I	224.00	7690
	Stage II	170.00	7690
11. Pothundy		225.00	5460
12. Kallada		840.00	44310
13. Pamba		385.00	13350
14. Kuttiady		460.00	14570
15. Chittupuzha		100.00	10120
16. Kanjirapuzha		335.00	9710
17. Valapattanam		440.00	16190

Lift irrigation schemes have also been implemented in some parts of the States, particularly Ernakulam District in the recent past.

Generally, more than one crop is raised during an year in a plot (wet land) the number of crops being dependent on the topography of the land and availability of water. The first and second crops depend on the south-west and north-east monsoons respectively. The third crop depends mainly on sub-soil water and occasional rains.

4. *Crops:* The important crops in the State are paddy, tapioca, cocoanut, arecanut, pepper, ginger, cashew, cardamom, tea, coffee, rubber, lemongrass oil and fruits. The district-wise distribution of the important crops is as follows:

	Rice	Pepper	Arecanut	Coconut	Tea	Rubber	Tapioca	Banana
STATE	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Trivandrum	4.80	8.46	6.62	10.99	3.00	3.02	23.50	4.87
Quilon	5.92	5.29	7.08	12.92	8.02	17.53	23.97	7.26
Alleppey	10.19	1.76	4.22	15.14	..	1.60	11.65	6.93
Kottayam	5.13	14.11	8.35	11.74	71.50	35.11	18.26	6.58
Ernakulam	10.00	6.85	7.50	8.82	0.36	12.93	7.32	5.08
Trichur	13.12	0.69	7.63	7.19	1.06	5.09	3.15	6.32
Palghat	24.67	3.43	9.71	3.69	1.57	4.12	1.38	19.28
Kozhikode	13.88	16.10	33.23	19.84	10.53	12.15	7.84	20.32
Cannanore	12.29	43.31	15.66	9.67	3.96	8.45	2.93	23.36

*Paddy:* paddy is the most important crop in the State accounting for 32.2% of the total cropped area in the State. Paddy is cultivated in three seasons viz. Autumn, Winter and Summer. Among these crops, the area under Autumn paddy accounts for 48.6% of the total cropped area under the crop. In 1960-61 the area under paddy was 7.79 lakhs hectares. The total production of cleaned rice during 1960-61 was 10.67 lakhs M. Tons.

*Tapioca:* Tapioca a tuber crop with high content of starch is second only to rice in importance among the food crops of the State. This is taken as a subsidiary food by a vast majority of the population. It is raised in almost all types of land in the State. Its duration varies from 9 to 12 months. It was cultivated in 2.42 lakhs hectares during 1960-61, covering 10.0% of the total cropped area in the State. Trivandrum and Quilon Districts were more important for the crop compared to other Districts. 29.0% of the total cropped area in Trivandrum District was under tapioca cultivation while the percentage in Quilon District was 22.6%. 47.5% of the total area under tapioca was accounted for in these two Districts. In Palghat District acreage under tapioca was only 1.4% of total area under tapioca in the State. The production of tapioca during 1960-61 was estimated at 16.83 lakhs tonnes.

*Cocoanuts:* Cocoanut is grown in all parts of the State. During the year 1960-61 Cocoanut was grown in 5.65 lakhs hectares, accounting for 21.3 per cent of the total cropped area of the State.

The intensity of cultivation of cocoanuts was highest in Alleppey District with 34.2 per cent of the total cropped area in the District under the cocoanut. Alleppey was followed by Trivandrum (28.0%), Kozhikode (27.8%) and Quilon (25.2%) Districts. In Palghat District cocoanut was grown only in 5.8% of the total cropped area of the District. The most important cocoanut growing District in the State during 1960-61 was Kozhikode which accounted for 19.8% of the total area under the crop in the State. This was followed by Alleppey District which covered 15.1% of the total area under the crop. The percentage of area under cocoanut in Palghat District to the total area under cocoanut in the State was 3.7% only. The production of cocoanut during 1960-61 was estimated at 3220 Million nuts.

*Arecanut:* The area under arecanut was 57000 hectares during 1960-61. The crop is grown in all Districts of the State. The major arecanut growing District was Kozhikode covering 33.2% of the total area under the crop in the State. Cannanore and Palghat stood next in that order, the percentages of area being 15.7 and 9.7 respectively. Arecanut production during 1960-61 was estimated at 7737 million nuts.

*Pepper:* In the group of condiments and spices, pepper is the most important crop. Pepper is a rainfed crop and grows best in tropical regions where there is an average rainfall of about 200 c. m. It grows in places with altitude less than 900 metres. The soil suitable

for pepper cultivation are clay loam or sandy loam. It is propagated vegetatively by cuttings. It is a wood climber and requires some support for growing. Jack, Mango, Murukku and Arecanut trees are commonly used for supports.

Kerala is famous for its black pepper which attracted foreigners years back. The area under pepper in Kerala during 1960-61 was 1.00 lakh hectares. Pepper is grown in all Districts of Kerala. The more important Districts with regard to Pepper cultivation are Cannanore, Kozhikode and Kottayam. Trichur and Alleppey Districts are not important for pepper cultivation. Out of the total area of 1 lakh hectares under pepper cultivation during 1960-61, 43.3% of the area was in Cannanore District. The commodity is exported through the ports of Cochin, Alleppey, Tellicherry and Badagara. The production of pepper during 1960-61 was estimated at 27000 Tonnes.

**Ginger:** Ginger is another valuable spices crop grown in the State even though the acreage under the crop is not very high. Kerala is the largest producer of ginger in India. Its cultivation is mainly confined to the four Districts of Kottayam, Ernakulam, Palghat and Kozhikode. The area under the crop was 12,000 hectares during 1960-61. The taluks important for the crop are Meenachil (Kottayam District), Thodupuzha, Muvattupuzha (Ernakulam District) and South Wynad in Kozhikode District. Kozhikode and Kottayam Districts account for 36.7% and 30.3 % of the total area under the crop respectively. The main assembling markets are Muvattupuzha, Ponkunnam, Palai and Kozhikode. The exporting centres are Cochin, Kozhikode and Alleppey. Ginger is exported mainly to the other parts of India for use in medicinal preparations. Aden and U. S. A are the foremost foreign buyers. The production during 1960-61 was estimated at 11,000 tonnes.

**Cashew:** Cashew is another dollar earning crop in the State. It is found in all Districts; but it is grown more abundantly in Kozhikode, Trichur, Quilon, Ernakulam and Cannanore Districts. The area under Cashewnut was 54,000 hectares during 1960-61. The percentages of area under cashew covered by Kozhikode, Quilon and Trichur Districts were 19.1, 16.4 and 16.4 respectively. The production during 1960-61 was estimated at 85,000 tonnes of raw nuts. The cashewnuts are processed into kernels in the State for export. Most of the cashewnut factories are situated in or around Quilon.

**Cardamom:** Cardamom is another important crop coming under the spices group. It is cultivated mainly in the high-ranges. The best climate suitable for cardamom cultivation is a warm humid atmosphere with a temperature ranging between 50°F and 95°F. It is cultivated in the shades of huge forest trees. It requires a fairly well-distributed annual

rainfall of 150 c.m. to 200 c.m. The best altitude for cardamom planting is between 760 to 1520 metres. Deep rich loam soil is the most suitable soil for cardamom cultivation. The high ranges in Devicolam, Udumbanchola, Thodupuzha and Peermade taluks satisfy the above conditions and the cultivation of the crop in the State is mainly confined to this region. The area under cardamom during 1960-61 was 29,000 hectares. 86.4% of the total area under the crop was in Kottayam District.

Kerala is the most important producer of cardamom in India. The estimated production during 1960-61 was 1000 M. Tons.

**Cotton, Groundnut and Tobacco:** During 1960-61 cotton was raised in 10,000 hectares in the State. 78.2% of the area under cotton was in Palghat District. The estimated production of cotton during 1960-61 was 11,000 bales.

Groundnut is an important oil seed of the State. Its cultivation is mainly confined to Palghat District. During 1960-61 16,000 hectares were under groundnut cultivation and the production was 14,000 tonnes of nuts.

Tobacco is cultivated in two northern most taluks of the State. viz. Kasargode and Hosdurg taluks in Cannanore District. During 1960-61 tobacco was cultivated in 743 hectares. The production during the year was estimated at 1006 Tonnes.

**Tea:** Tea occupies the foremost position among the plantation crops of the State. Kerala is the third largest producer of Tea in India.

The best climate for tea plantation is hot moist climate the temperature varying from 55° F to 95° F and an annual rainfall ranging between 250 c. m. and 330 c. m. The best soil suitable for the cultivation of tea is light friable soil of good depth through which water percolates freely. These conditions are satisfied by the high ranges of Kerala. The area under tea during 1960-61 was 38,000 hectares. 71.5% of the total area under tea was in Kottayam District. The total production during the year 1960-61 was estimated at 40,000 tonnes of Tea.

**Coffee:** Coffee is a tropical plant. Two important varieties of coffee plant grown in India are Arabuca and Robusta. Robusta flourishes at lower levels and has more power of resistance against extremes of climates and pests and diseases. Coffee is successfully cultivated in places where the altitude ranges from 450 metres to 1800 metres above sea level. It needs a well distributed rainfall of about 150 c. m. to 200 c.m. per annum and a distinct rainy and dry seasons with a maximum average temperature of about 70° F. Coffee requires sandy soils or clay loam soils with a good sub-soil drainage system. Usually the crop is grown from seed.



During 1960-61 coffee was grown in an area of 17,000 hectares. Among the nine Districts of the State, Kozhikode occupied the foremost place in the extent of cultivation of coffee, accounting for 68.5% of the total area under coffee during 1960-61. The production of Coffee during 1960-61 was estimated at 7,000 tonnes.

**Rubber:** Kerala holds a monopoly for Rubber cultivation in India. Rubber is a plant usually grown in the tropical belt lying between 15°N and 10°S of the equator and usually at an altitude of 300 metres above sea level. The annual rainfall should be between 200 c.m. to 300 c.m. and should be well distributed. The cultivation of the crop is done in many parts of the State. It was cultivated in an area of 1.23 lakhs hectares during 1960-61.

The important rubber cultivating district in the State during 1960-61 was Kottayam which accounted for 35.1% of the total area under the crop. It is followed by Quilon, Ernakulam and Kozhikode in that order with 17.5, 12.9, 12.2 percentage of the total area under rubber. Alleppey District covered only 1.6% of the total area under rubber in the State. The rubber production during 1960-61 was estimated at 23,000 tonnes.

**Lemongrass oil:** It is an important raw material for the perfumery, soap and cosmetic industries. In India, Kerala is the important producer of lemongrass. The crop grows on the fertile hill slopes with hard laterite soils. The life of the plant is from 5 to 8 years. It is grown from seed usually. The major lemongrass growing Districts are Cannanore, Ernakulam and Kozhikode. The production was estimated at 1715 M. Tons of lemongrass oil during 1960-61.

The important lemongrass growing taluks are Kunnathunad, Alwaye, Thodupuzha and Muvattupuzha of Ernakulam District and Taliparamba in Cannanore District.

**Fruits:** Fruits can be classified into fresh and dry fruits. The only important dry fruit produced in the State is cashew. The important fresh fruits grown are Mango, Jack, Banana, Plantain and Pineapple. The area under fresh fruits was 1.64 lakhs hectares during 1960-61 which formed 6.9% of the total cropped area in the State. Almost every house especially in the midland region has a few mango trees, jack trees, bananas, plantains and pineapples. They are grown on plantation scale also though such cultivation is confined to certain areas only. Areas around Punalur in Quilon District is important for pineapple and Taliparamba and Tellicherry in Cannanore District, South Wynaad in Kozhikode District, Changanacherry in Kottayam District and Pathanapuram in Quilon District are important for bananas and other Plantains.

## 5. Agricultural Research:

The Department of Agriculture is taking interest in agricultural research with a view

to evolving improved varieties of seeds, controlling pests and diseases, testing of soils, studying effects of various kinds of manures on different types of soils etc.

There are nine major research stations with manifold activities. They are located at Nileswar (Cannanore District), Taliparamba (Cannanore District), Ambalavayal (Kozhikode District), Koothali (Kozhikode District), Nelliampathy (Palghat District), Pattambi (Palghat District), Kozha (Kottayam District), Mannuthy (Trichur District), and Vellayani (Trivandrum District).

The paddy farms at Trichur, Alwaye, Vyttila, Mancompu, Kayamkulam, Kottarakara and Karamana are mainly meant for intensive research on paddy crop. In addition to these, there are seed multiplication centres also in various parts of the State.

Special research centres and nurseries for important crops are also functioning in the State.

## 6. Livestock, Poultry and Agricultural implements:

Livestocks plays an important part in the economic life of the State which is predominantly agricultural. The major part of the cattle wealth in the State belongs to non-descript breeds.

Statistics of livestock are collected in quinquennial Censuses, the last census being in 1961.

The total number of livestock in the State according to the 1961 Census was 46.98 lakhs (as against 41.63 lakhs in 1956). Cattle formed the largest number being of the order of 27.53 lakhs. They were followed by goats numbering about 13.12 lakhs and by buffaloes whose number was about 4.85 lakhs. The position of pigs was fourth and sheep fifth, their numbers being nearly 1.22 lakhs and 0.24 lakhs respectively. Horses and ponies numbered 408 and donkeys 377. No camels were recorded.

The cattle population of the State (1961 Census) formed about 2% of the cattle population of India. The buffalo population of the State accounted for about 1% of the population of buffaloes in India. As regards goat population, it was about 2% of the total goat population in India.

The number of adult cows available per 1000 population was 69 in the State. Considering the cows and she-buffaloes in milk alone the availability in the State per 1000 population was 29. Most of the Indian States are much ahead of Kerala in this regard (vide subjoined table).

Table—15

NUMBER OF COWS AND SHE-BUFFALOES IN MILK PER THOUSAND POPULATION IN KERALA AND OTHER INDIAN STATES

State	Rate per thousand population of the State (1961)
Andhra Pradesh	73
Assam	106
Bihar	52
Gujarat	83
Jammu and Kashmir	118
Kerala	29
Madhya Pradesh	115
Madras	53
Maharashtra	63
Mysore	81
Orissa	61
Punjab	119
Rajasthan	132
Uttar Pradesh	79
West Bengal	61

The total number of poultry in the State as per the 1961 Census was about 91.06 lakhs of which 95.6% was fowls.

The number of poultry in the State per 1000 of population was 538.

The total number of ploughs in the State as per the 1961 Census was 5,68,692 of which 6,441 were iron and the other wooden. The number of ploughs available per 100 hectares of cropped area worked out to 24.1. i. e. one plough was available for every 4.1 hectares of cropped area.

The number of sugarcane crushers in 1961 was 1,246 as against 1,385 in 1956. One of the reasons for the decrease may be the functioning of the sugar factory in Thiruvalla in Alleppey District. 3372 Oil Engines were enumerated in the 1961 Census as against 2,504 in the 1956 Census. The number of tractors increased from 157 to 276 during the quinquennium 1956 to 1961. Of these, 61 were in the Malabar region. The number of ghanis recorded in the 1961 Census was 4,222

## 7. Fisheries.

Kerala with a coastline of over 500 Kilometres has an important place in the fishery map of India. The important species are sardine, mackerel and prawns found near the shore. The fishing operations are done mainly at the level of household industry. The operations are confined to a narrow belt of the sea, extending to a distance of about 8 Km. to 16 Km. from the shore. The fishermen of South Travancore use catamarans and those of Malabar have small dugout canoes operated with oars and sails. Several types of nets boat seines, shore seines, large drift nets, gill nets, cast nets etc. are used.

Important shoaling areas are around Trivandrum, Quilon, Alleppey, Cochin Ponnani and Kozhikode.

Mechanisation of fishing and introduction of modern methods of fish processing, especially with the assistance of Norwegian Government are slowly transforming the lives of the Kerala fishermen.

The value of the estimated catch of marine fish during 1960-61 was Rs. 497 lakhs. The contribution of inland fisheries during the year was estimated at Rs. 2.4 lakhs.

## VII. Community Development.

This programme was initiated in the State in October, 1952 with three projects. The coverage has gradually expanded. At the end of March 1961 there were 117 Development Blocks functioning in the State (including pre-extension) covering about 63.4% of the area of the State and about 73.4% of the population. Of these 117 Blocks, 67 were N. E. S. (Stage I), 34 Post Intensive (Stage II) Blocks and 16 Pre-extension Blocks.

The activities of Block relate to distribution of improved seeds, fertilisers and agricultural implements, distribution of improved animals and birds, provision of veterinary services, imparting of education to adults and provision of reading facilities to the public, organisation of farmer's Clubs, Mahilasamities and Village Camps, construction of compost pits, rural latrines and drains, provision of good drinking water and improvement of communication facilities. In short it covers all aspects of the village life and helped the villages to participate in the various programme for their betterment.

Rural areas of the State are mostly covered by Panchayats. There are 922 Panchayats in the State.

## VIII. Power.

With a high mountainous range all along the eastern border of the State, a relatively high rainfall and a good number of perennial rivers, the Kerala State is very rich in hydro-electric potential.

The former Travancore Government embarked on exploiting the hydro-electric resources in 1933. The Pallivasal Hydro-electric Project was the first to be taken up. This Scheme harnesses the water of Mudirapuzha river, a tributary of Periyar river. The total installed capacity of this project is 37500 K.W.

Other Projects completed are the Poringalkuthu Scheme (32000 K. W.), Shengulam and Neriamangalam (48000 K. W.) and (45000 K. W.) respectively. Shengulam utilises the tail race waters of the Pallivasal Power Houses. Three other projects viz. Panniar, (30000 K. W.) Sholayar (54000 K. W.) and Sabarigiri (300000 K. W.) are to be completed during the Third Plan Period.

The generation of the electricity in the State in 1960-61 from hydro-electric projects was 582 Million K. W. Hrs. The consumption of electricity in the State in 1960-61 was 506 Million K. W. Hrs. The annual per capita consumption was thus about 29.9 K. W. Har.

The percentage distribution of consumption according to class of consumers for 1960-61 is given below:

Table—16.

CONSUMPTION OF ELECTRICITY IN KERALA	
Class of Consumers	Percentage to total
1. Domestic heat and small power	0.84
2. Domestic light and fans	6.91
3. Commercial heat and small power and commercial light & small power	0.27
4. Industrial power at low & medium voltage	7.99
5. Industrial power at high voltage	67.34
6. Public lighting	1.31
7. Agriculture & Irrigation dewatering	3.62
8. Public Water works & sewage pumping	1.43
9. Bulk supplies to distributing licencees	10.29

The annual per capita consumption of electricity in the State and other Indian States during 1960-61 according to the provisional estimates was as follows:—

Table—17

State	Per capita consumption of Electricity (K.W.H.)
1. Andhra Pradesh	15.88
2. Assam	2.45
3. Bihar	22.74
4. Gujarat	47.70
5. Jammu & Kashmir	14.25
6. Kerala	29.91
7. Madhya Pradesh	12.52
8. Madras	9.48
9. Maharashtra	68.85
10. Mysore	39.70
11. Orissa	27.80
12. Punjab	28.59
13. Rajasthan	4.89
14. Uttar Pradesh	13.23
15. West Bengal	71.28

(Source: Central Water and Power Commission).

Consumption of power is an indicator of the economic progress. The per capita consumption of electricity (total and industrial) during the years from 1957-58 to 1960-61 in Kerala is given in the table appended.

Table—18

Year	Per capita consumption (in KWH)	
	Total	Industrial
1957-58	22.96	17.43
1958-59	26.15	20.26
1959-60	25.61	19.43
1960-61	29.91	22.53

## IX. Co-operation

The Co-operative movement cannot be said to be very popular in the State. The growth in the number of societies (non-industrial), membership and capital structure over the past few years is given in the table subjoined.

Table—19

Year	No. of Societies	Membership (lakhs)	Working capital (Rs. in lakhs)
1957-58	3878	9.66	1142
1958-59	4323	10.40	1583
1959-60	4539	12.96	1927
1960-61	4628	14.27	2178

In addition, there were 396 Handloom Weavers' Co-operative societies and 372 coir co-operative societies in 1960-61. The membership of handloom weavers' co-operative societies was 48388 and working capital Rs. 137 lakhs. The coir co-operatives had a membership of 1.05 lakhs and working capital Rs. 136 lakhs.

## X. Industrial Structure

Kerala with its teeming population has to depend on Industrial expansion for future prosperity. In the case of organised industries, Kerala is lagging behind the other States of the Indian Union. The economy of the State mainly depends on Agriculture. Small scale and cottage industries employ nearly 82 per cent of the total working force in industry (excluding plantations).

### 1 Large Scale Industries.

The large scale industries show concentration in certain Districts of the State depending on the availability of raw materials, fresh water and transportation facilities. The total number of registered factories in Kerala as on 31-12-1960 was 2400. It is estimated that these factories employ on an average of 1.67 lakhs of persons daily. The maximum number of registered factories is in Cannanore District and the least in Trivandrum District. About 73 per cent of the State's factory labour is employed in agro-based industries, the corresponding All-India percentage being only about 60. Industries based on forest account for about 7 per cent of the factory workers in the State as against 3 per cent for all India. Basic metal industries and metal based engineering industries absorb only a very low percentage of the factory workers in the State.

The most important factory industries in the State in the order of employment are the following :

Table—20

Sl.No.	Nature of Industry	No. of factories	Average daily employment (estimated)
1.	Cashew	181	70443
2.	Cotton Textiles	267	18015
3.	Bricks and Tiles	159	12739
4.	Coir	180	11594
5.	Wood Industries	314	10898

**Cashew Industry:** The main producers of raw cashewnut in the world are India and East Africa. Almost the entire East African crop is exported as raw nut to India for the processing and manufacture of cashew kernels. The processing requires the services of special

type of labour. It is estimated that over 90 per cent of the world demand of cashew kernels is met by the Indian industry. There were 181 cashew factories in the State during 1960 which employed on an average 70,443 workers daily. Out of the 181 factories, 85 per cent were in Quilon District, concentrated round about Quilon.

*Cotton Textiles:* The important centres for the industry in the State are Trichur, Kallai, Chirackal and Pappinisseri. The total number of registered cotton mills (including knitting mills) during 1960 was 282, employing on an average about 18,500 persons daily. Of these, only 42 factories have power-looms. The average daily employment in such factories however comes to 11,760.

*Bricks and Tiles Industry* is one of the important industries in Kerala State and has been in existence for several years. The industrial units are concentrated near about Quilon Alwaye, Trichur, Pudukad and Feroke. Low type clay suitable for the manufacture of Bricks and Tiles is found in abundant supply in these places. The number of registered tile and brick factories in the State for 1960 was 159. The average daily employment in these factories was about 12,740.

*Coir Industry* is basically a cottage industry. But there were about 180 registered coir factories in the State during 1960, the places of concentration being Alleppey, Shertallai, Fort-Cochin and Kozhikode. The average daily employment in these registered factories is estimated at 11,590 persons. Coconut is the raw material for the coir industry and Kerala holds almost a monopoly of the coconut production in India.

*Wood Industries:* Plywood industry is one of the important wood industries in Kerala which is fairly well established. Next to Assam, Kerala is the largest producer of commercial plywood. Soft wood is available in plenty in the forest areas of the State. During 1960, there were 13 registered plywood factories in the State. Punalur in the Travancore-Cochin area and Baliapattam in Malabar are the important centres. On an average, 15,43 persons were employed daily in these factories. During 1960, there were 76 factories (manufacturing splints and veneers) employing on an average 3,800 persons per day. Besides these, there were 161 Saw Mills providing employment for nearly 3,900 persons daily.

Apart from the factory industries, plantation industry (Rubber, Coffee and Tea) occupies a very dominant position in the State's economy providing employment to about 1.98 lakhs of workers daily.

A location factor can be worked out to study the concentration of organised industries and industrial employment in the different districts of the State. This factor is obtained by taking the ratio of two proportions namely

the proportion of factory workers in the population of the region on the corresponding proportion for the State as a whole.

The location factor of the various Districts are given below:

Trivandrum	..	0.485
Quilon	..	3.611
Alleppey	..	0.823
Kottayam	..	0.410
Ernakulam	..	0.895
Trichur	..	0.789
Palghat	..	0.383
Kozhikode	..	0.644
Cannanore	..	0.781

From the above, it can be seen that there is higher concentration of factory industries in the Quilon District compared with the other Districts of the State. Next in importance is Ernakulam District. The backward Districts in this respect are Palghat, Kottayam and Trivandrum. Eventhough, many of the major-industrial units are located in Ernakulam District, the factory labour which is the basis for the calculation of the location factory is greater in Quilon District where the cashew factories which are labour intensive, are concentrated.

The following table gives the number of working factories in Kerala classified according to the number of persons employed.

Table—21

Number of persons employed	No. of factories
Less than 50	1805
50—100	302
100—500	282
500—1000	77
1000—5000	8
Total	2,474

From the above table it is seen that there are only 8 factories in Kerala State which employ more than 1,000 persons each. Out of the 2,474 factories, 2,107 factories employed less than 100 workers each. The extremely small size of the industrial units in the State has also been responsible for the industrial backwardness.

*Industrial Wages:* The average annual earnings of an industrial worker during the year 1960 in the State was Rs. 694 (vide sub-joined table).

Table—22.

Industry	No. of workers covered	Average annual earnings of workers (in Rs.)
(1)	(2)	(3)
All Industries	83825	694
1. Tea	4738	734
2. Cashew	30828	310
3. Cotton Textiles	10702	948
4. Coir	6479	775
5. Rubber	1356	702
6. Saw Mills	2342	821
7. Plywood	1107	781
8. Beedi and Cigar	680	722
9. Printing	1798	1,085
10. Chemicals	930	1,376
11. Soap	1105	2,316
12. Bricks & Tiles	8576	760
13. General Engineering	974	1,506
14. Repair of Motor Vehicles	1171	1,161
15. Oil Mills	690	805

(Source: Annual Returns for the year 1960 under the Payment of Wages Act).

The average daily earning of workers in Industries such as Tea, Coir, Timber, Rubber, Bricks and Tiles and Glass was nearly Rs. 3. But in the Rayon industry, the average daily earning of a factory worker came to about Rs. 8 and in the soap industry it was about Rs. 7. In the case of Rice Mills and Cashew factories, the average daily earning of a factory worker was only Rs. 1.53 and Rs. 1.40 respectively. In the cotton textile industry, which stood second as far as the number of persons employed was concerned the average daily earnings of a worker was Rs. 4.

*Industrial Relations:* The number of industrial disputes resulting in work-stoppages and mandays lost in registered factories and plantations during the past few years are given in the sub-joined table (only disputes effecting 10 or more workers are included).

**Table—23**

PARTICULARS OF WORK-STOPPAGES DUE TO INDUSTRIAL DISPUTES

Year	No. of disputes	No. of workers affected	Total No. of mandays lost
1957	277	220898	968426
1958	365	142878	1113530
1959	243	54548	281128
1960	274	159067	1057155

## 2. Small Scale Industries :

Kerala has a large number of cottage and small scale industries which give employment to a number of persons and provide subsidiary occupation to agriculturists.

Handloom weaving, oil crushing, pottery, carpentry, blacksmithy, coir industry, beedi making etc., are some of the important small industries of the State. These industries are predominantly single proprietary. Among the workers, labour drawn from the households from a substantial number. The number of persons employed in most of the establishments is less than 6.

Eventhough there are a number of cottage industries such as coir weaving, mat making, fish curing, bell metal, curing of arecanuts, etc. existing in the State the possibilities of improving and expanding the same require technical attention. The coir industry gives employment to a large number of people in the coastal taluks such as Quilon, Karunagappally, Karthigappally, Shertallai, Ambalapuzha, Vaikom, Ponnani, Kozhikode, Tirur, Quilandy etc. Quilon, Alleppey and Palghat Districts produce some of the best varieties of coir yarn in the State. Coir fibre beaten out of retted coconut husks is spun out into yarn either by hand or by a simple wheel and the yarn is made into mats and mattings. Now steps are being taken by the State Government to organise the industry on a co-operative basis and some progress has been made in this direction. Handloom weaving is carried on as a cottage industry in the taluks of Quilon, Kottarakara,

Shertallai, Vaikom, Kunnathunad and in Chovva, Chirackal and Azhikode of Cannanore District. In the coastal taluks, mats, both coarse and fine are made from two or three species of screwpine growing abundantly on the banks of backwaters and canals. Thazhava in Karunagappally Taluk and Kayamkulam are famous for the production of fine mats. The manufacture of molasses (raw sugar) from sugarcane is carried on in Thiruvalla, Pathanamthitta, Kunnathunad and Chittur Taluks. The preservation of fish by sundrying is undertaken in a number of places along the coastal area. Prawn is being exported in large quantities from this State to foreign countries and thus this cottage industry is a valuable dollar earning industry. Curing of arecanut is an important cottage industry in the taluks of Meenachil, Thalappilly, Trichur and Mukundapuram. A large number of men and women are engaged in this industry; Pazhanji, Vadakkancheri, Kunnankulam, Irinjalakuda, Trichur and Palai are the centres of this industry. Oil crushing industry is carried on in almost all taluks excepting the hilly region. Village potters make a large variety of earthenware articles for domestic use. Mat and basket weaving is carried on at all places where bamboo and reeds are obtained from the forests. Kora grass mat weaving is an important industry in parts of the Thalappilly and Chittur taluks. The distillation of lemongrass is carried on in some taluks of Ernakulam District particularly Kunnathunad and Muvattupuzha. The making of beedies gives employment to a considerable number of people in both the towns and villages.

## XI. Joint stock companies

Both in the public sector and the private sector, the number of joint stock companies in the State showed a decline over the past few years. The number of public companies which stood at 508 on 31-3-1958 came down to 435 on 31-3-1961. But the total paid up capital of the public companies showed a slight increase from Rs. 22.96 crores to Rs. 24.08 crores.

As regards private companies their number also declined from 704 to 604. The paid up capital also showed a slight fall from Rs. 6.50 crores to Rs. 6.35 crores.

Nearly 40% of the public companies were in the sector 'Commerce, Trade and Finance'. The manufacturing industries sector had 34% of the companies. But the paid up capital of the companies in the Manufacturing Industries Sector aggregated to about three times the paid up capital of the companies in the sector 'Commerce, Trade and Finance'. The Agricultural Sector (Primary) had 22% of the companies with a paid up capital of about Rs. 7 crores (29% of the total). In the private sector also the number of companies was maximum in the commerce, trade and finance



sector with 45% of the total. Manufacturing sector followed with about 30% of the number and 32% of the paid up capital. The paid up capital of private companies in the sector 'Commerce, Trade and Finance' was almost the same as that of the Manufacturing Industries Sector.

The paid up capital of all the Joint Stock Companies in the State together formed only about 2% of the total paid up capital of the Joint Stock Companies in India.

## XII Transport, Communications & Tourism

As compared to other Indian States Kerala has a fairly good transport system. The State

has an almost uninterrupted line of navigational canals extending from Trivandrum in the South to Tirur in the North. In regard to road transport facilities Kerala is high up among the Indian States. The State has also rail and air connections with important Indian Cities outside the State.

*Road Transport:* The State has one of the highly developed road transport systems in India. The average length of road in Kerala per 100 Sq. Kilometres was 49 which compares favourably with the All India average of 20. The length of road per 100 Sq. Kilometres of area in the various Indian States (as on 31-3-1960) was as follows:

Table—24

LENGTH OF ROADS IN KILOMETRES IN VARIOUS STATES IN INDIA IN RELATION TO AREA AND POPULATION AS ON 31ST MARCH 1960

State/Union Territory	Per 100 Sq. Km. of area			Per lakh of population		
	Surfaced roads	Unsurfaced roads	All roads	Surfaced roads	Unsurfaced roads	All roads
Andhra Pradesh	10.1	8.6	18.7	78.5	66.6	145.1
Assam	2.3	22.9	25.2	24.1	242.2	266.3
Bihar	6.8	32.0	38.8	26.1	122.1	148.2
Bombay (undivided)	7.1	7.6	14.7	60.2	63.7	123.9
Jammu & Kashmir	0.9	3.6	4.5	56.2	224.2	280.4
Kerala	23.2	26.0	49.2	54.6	61.1	115.7
Madhya Pradesh	4.5	4.7	9.2	63.3	65.0	128.3
Madras	23.1	14.4	37.5	90.2	56.7	146.9
Mysore	14.2	17.4	31.6	118.3	144.3	262.6
Orissa	4.4	15.3	19.7	39.9	138.1	178.0
Punjab	8.2	20.0	28.2	50.7	122.8	173.5
Rajasthan	4.0	10.2	14.2	69.9	177.3	247.2
Uttar Pradesh	7.0	223.2	30.2	28.3	94.0	122.3
West Bengal	13.8	45.3	59.1	35.7	117.0	152.7
Union Territories	1.4	8.1	9.5	32.7	193.4	226.1
ALL INDIA	7.0	13.2	20.2	54.1	102.2	156.3

There are two important highways in the Travancore-Cochin area which connect Trivandrum and Alwaye. One passes through the midland region and touches Kottarakara, Thiruvalla, Kottayam and Muvattupuzha. The other traverses the coastal region and passes through Quilon, Kayamkulam, Alleppey, Shertallai and Ernakulam. Beyond Alwaye there is only one highway route upto the northern end of the State and this passes through the midland region till it reaches Kozhikode. It touches Trichur, Shornur and Perinthalmanna. From Kozhikode the route lies along the coast and runs almost parallel to railway line. The important places on the route are Badagara, Tellicherry, Cannanore, Nileswar, Kasargod and Manjeswar.

During 1960-61 there were 24512 motor vehicles on roads in Kerala. The number of vehicles in 1957-58 was only 16174. The number has increased by 50% during the five years. The number of public service vehicles form about 41% of the total number of motor vehicles. A notable feature of the road transport system of the State is that the State Transport Department is the largest operator of routes. During 1960-61 the Department possessed 773 vehicles of which 690 were buses. The Department operated 358 routes covering a distance of 9980 Kilometres during the year.

The following table gives a comparative picture of the availability of motor vehicles in the various Indian States as on 31-3-1960:

Table—25.

State/Union Territory	No. of Motor vehicles per lakhs of population
Andhra Pradesh	90
Assam	207
Bihar	54
Bombay (Undivided)	212
Jammu and Kashmir	106
Kerala	122
Madhya Pradesh	104
Madras	149
Mysore	135
Orissa	63
Punjab	100
Rajasthan	101
Uttar Pradesh	60
West Bengal	306
Union Territories	547
ALL INDIA	135

*Railways:* There is a railway line connecting Trivandrum (the capital of the State) in the South to the northern end of the State. The line is metergauge from Trivandrum to Ernakulam and beyond Ernakulam Broad-gauge. The two other railway lines in the State are those from Madras, one coming through the Palghat gap and the other through the Aryancavu gap. The former is a broadgauge line and the other metergauge. The total length of railways in the State is only 888 Kilometres.

*Waterways* : Inland waterways in Kerala play an important role in the State's economic life. The rivers of the State provide a good system of water routes. These rivers are interconnected by back-waters and canals. There are 1900 Kilometres of waterways in the State connecting industrial and commercial centres and ports. Water Transport is one of the cheapest modes of transport in the State.

*Airways* : Emakulam (Cochin) and Trivandrum are in the air map of India. There are 2 daily services between Madras and Trivandrum touching enroute Bangalore, Coimbatore, Madurai and Tiruchirappally. There is another daily service connecting Bombay & Cochin. The Statistics collected for the Trivandrum airport show that during 1960, 4967 persons embarked and 4812 dis-embarked at Trivandrum air port.

*Post and Telegraphs* : The Kerala Circle of the Post and Telegraph Department was formed recently. The State was served by 2901 post offices in 1960-61. The number of telegraphic offices was 344. The number of letters, post cards, newspapers, parcels and packets handled by the Post Offices in Kerala during the year 1960-61 was about 1.22 crores.

*Broadcasting Stations* : The State has three Broadcasting Stations of the All-India Radio at Trivandrum, Trichur and Kozhikode. The number of domestic broadcast receivers in the state was 48745 (during 1960-61). In addition there was 1166 community receiving sets and 639 school receiving sets.

*Tourist Centres* : Kerala with its variegated and resplendent natural scenery and equable climate is an ideal and must place for tourists. In centuries past this treasure land of east had attracted many a Nation seeking market and Empire. The Arabs, the Portuguese, the Dutch, the French and British landed on Kerala's sandy surf and the warm hospitality of the Kerala people and the Rulers enabled these nations to carry on thriving trade in spices, ivory and other valuable products. No where else in India have so many religions and faiths flourished side by side as in Kerala. Here can be found Temples, Churches and Mosques jostling each other in the same locality.

There is a Department of Tourism in the State. The roads in the State are good and rest houses are provided at all important places in the State. The following are some of the important places of interest.

Trivandrum, the capital of the State is an ancient city of Palaces, Temples, Churches and Mosques. The Sree Padmanabhaswamy temple located in the heart of the city is considered to be one of the most sacred temples in India. The Napier Museum in the Capital is

one of the best in India. There is an Art Gallery also. The city has a fine sandy beach. It is the seat of the Kerala University and is the abode of several Colleges.

Kovalam, thirteen Kilometres to the south of Trivandrum is an ideal spot for sea bathing.

Varkala, 50 Kilometres to the north of Trivandrum is a famous pilgrim centre renowned for its Janardhana Temple. High cliffs and mineral water springs are added attractions.

Ponmudi, a hill station, 60 Kilometres from Trivandrum is a pleasant health resort and can be reached by road.

Munnar (914 metres above sea level) is a plantation centre situated about 138 Kilometres from Cochin. It is a delightful hill station and health resort.

Peermade is another Hill station, 74 Kilometres from Kottayam. From Peermade a winding ghat road takes you along a 43 Kilometres route to the Periyar lake surrounded by a game preserve. Cruising on the lake it is possible for visitors to watch wild life in its natural habitat.

Cochin, the harbour city has many places of interest; a unique Jewish synagouge, the former Dutch Palace (with its ancient murals) and the modern harbour.

Calicut is famous in history as the capital of the Zamorins of Calicut. It was here that Vasco de Gama the intrepid Portuguese sailor first landed in 1498.

There are sites of irrigation and power projects viz. Peechi, Poringalkuthu and Malam-puzha where residential accommodation for tourists is available.

Ivory and wood-carving, metal inlay, handloom weaving, screwpine works and bell-metal castings are some of the important handicrafts seen dispersed in various parts of the State.

Kerala is noted for Kathakali and such other visual arts which would leave a lasting impression on those witnessing the performances.

### **XIII, Education and Health**

Better amenities are proposed to be provided to the people through expansion of facilities for education, control of diseases and development of health and medical services. In the sphere of Education and Health, Kerala leads many other States in India. In the Five Year Plans of the State high priority has been assigned to social service schemes. The total Third Plan outlay under Education and Public Health comes to 18.47 crores and 13.50 crores respectively. This is 10.87 per cent and 7.94 per cent of the total outlay of 170 crores.

The Per-capita expenditure (1960-61) on Education, Medical and Public Health was Rs. 12.2 whereas it was only Rs. 9.5 for Mysore and 8.4 for Madras.

**Education:** The percentage of literacy is higher in Kerala than in any other State as may be seen from the table given below:

Table—26

State	Percentage of literates to total population
Andhra Pradesh	21.2
Assam	27.4
Bihar	18.4
Gujarat	30.5
Kerala	46.8
Punjab	24.2
Uttar Pradesh	17.6
Madhya Pradesh	17.1
Madras	31.4
Maharashtra	29.8
Mysore	25.4
Orissa	21.7
Rajasthan	15.2
West Bengal	29.3
INDIA	24.0

The percentage of female literacy is also very high in Kerala with 38.9 per cent whereas the All India figure is only 12.9 per cent.

The per-capita expenditure on education in Kerala (1960-61) was 9.57. There were 882 secondary schools, 1933 Upper Primary schools and 6992 Lower primary schools in the State during 1960-61. It has been estimated that 97.32 per cent of children in the age-group 6-11, 67.93 per cent in the age group 11-14 and 36.32 per cent in the age-group 14-17 attended schools during the year 1960-61. 0.16 per cent of the children attending standards I to V were less than the age 6 while 7.55 per cent were aged more than 11. Of the children attending standards VI to VIII 8.62 per cent were less than 11 while 15.78 per cent were more than the age 14. The number of candidates who appeared for the S. S. L. C. examination in 1961 was 1,26,277 and the number passed 47,293.

In the field of Higher education also, Kerala has achieved much progress. There were 53 Arts and Science Colleges (including Oriental language institutions), 18 Training Colleges, 4 Engineering Colleges, one Agriculture College, one Veterinary College, 2 Law Colleges, 2 Medical Colleges, one Co-operative College and two Colleges for Physical Education during 1960-61. The District-wise distribution of the institutions for higher education as on 31-3-1961 was as follows:

Table—27

INSTITUTIONS FOR HIGHER EDUCATION IN KERALA (DISTRICT-WISE AS ON 31-3-1961)

Type	Trivandrum	Quilon	Alleppey	Kottayam	Ernakulam	Trichur	Palghat	Kozhikode	Cannanore	
Arts and Science	7	5	4	6	8	5	2	6	3	46
Engineering	1	1	..	..	..	1	1	..	..	4
Medical	1	..	..	..	..	..	..	1	..	2
Veterinary	..	..	..	..	..	1	..	..	..	1
Agriculture	1	..	..	..	..	..	..	..	..	1
Ayurveda	1	..	..	..	..	..	..	..	..	1
Co-operative	1	..	..	..	..	..	..	..	..	1
Physical education	1	..	..	..	..	..	..	1	..	1
Training	3	2	3	4	2	1	1	2	1	19
Law	1	..	..	..	1	..	..	..	..	2
Oriental studies	..	..	..	1	..	..	2	3	1	7

The discouraging factor about higher education is that whereas there were 37620 students attending various Arts and Science Colleges in 1960-61 there were only 7113 students attending professional colleges and another 12796 students in technical institutions for higher education with S. S. L. C. as minimum qualification for admission. This may be one of the reasons for the wide-spread educated unemployment in the State.

**Health:** The per-capita Government expenditure on Medical and Public Health for some of the Southern States are given in the following table:

Table—28

States	Per-capita expenditure (1960-61) Rs.
Andhra Pradesh	2.10
Madras	2.47
Mysore	1.97
Kerala	2.63

The number of allopathic medical institutions and beds available in Kerala per lakh of population are given in the following table:

Table—29

District	1960-61			
	No. of hospitals etc	Per lakh of population	No. of beds available	Per lakh of population
1. Trivandrum	56	3.21	3211	184.14
2. Quilon	36	1.85	810	41.73
3. Alleppey	39	2.15	1819	100.44
4. Kottayam	38	2.19	771	44.49
5. Ernakulam	52	2.80	1906	102.47
6. Trichur	47	2.87	2097	127.87
7. Palghat	44	2.48	741	41.72
8. Kozhikode	49	1.87	1737	66.37
9. Cannanore	36	2.02	886	49.78
STATE	397	2.35	13978	82.70

The number of inpatients and out-patients treated in the Allopathic hospitals and dispensaries during 1960-61 was 4.75 lakhs and 101.10 lakhs respectively.

Though the average number of medical practitioners (graduates and licentiates) per unit of population is lower in the State when compared to India as a whole, this has also been steadily increasing during the last 5 years.

The Ayurvedic and Homoeopathic system of medicine are also being encouraged by Government. There were 37 Ayurvedic Hospitals and 178 Ayurvedic Dispensaries in the State under the Department of Indigenous Medicines during 1960-61; 7389 in-patients and 47.28 lakhs out-patients were treated in these institutions. There was one Government Homoeopathic Hospital and 5 Dispensaries under the same Department and 221 inpatients and 475214 outpatients were treated there during the period.

Public Health activities particularly control measures of epidemic diseases has also progressed satisfactorily. There were no deaths due to Plague between 1957 and 1961, no deaths due to Cholera in 1959, 1960 and 1961 and the number of reported deaths due to small-pox decreased from 501 in 1957 to 469 in 1961.

#### XIV Trade

Kerala State has had trade relations with countries in almost all parts of the world from remote periods. Spices and hill produces of Kerala have long attracted traders from all over the world. The State is important for the production of pepper, ginger, cardamom and lemongrass oil, cashew and coir products. For some of these products, Kerala enjoys a virtual monopoly in India.

*Sea borne trade:* The State has a fairly long and uninterrupted coast line with several ports. The State therefore depends substantially on her maritime ports for export and import of goods. The major ports in the State are Cochin, Kozhikode and Alleppey. Trivandrum, Quilon, Koilthottam, Ponnani, Badagara, Tellicherry and Cannanore are the important minor ports.

Cochin which is undoubtedly one of the finest harbours in India, is also a naval base. It is an all weather port. This port handles about 85 per cent of the total sea-borne trade of the State. The volume of export and import handled by the port during 1960-61 was about Rs. 90.72 crores and Rs. 67.62 crores respectively. The port has an extensive hinterland which produces a variety of export commodities like pepper, ginger, tea, coffee, rubber, cardamom, lemongrass oil, coir and coir-products, copra, cocoanuts and coconut oil, timber etc. The important commodities exported through the Kozhikode port are bricks and tiles, cocoanuts, tea, coffee, coir and coir products, pepper, ginger and timber. Alleppey is important for the export of coir and coir products, pepper, ginger, turmeric and tapioca powder. Quilon handles the import of raw cashewnuts and export of cashew kernels. Koilthottam is important for

the export of mineral sands only. The main exports from Ponnani are cocoanuts, coir-yarn and provisions. Badagara handles mainly cocoanuts, copra, ginger, pepper and betel nuts. So far as Tellicherry is concerned the more important exports are cocoanuts, coffee and pepper. In Cannanore cocoanuts and rice form the most important items of exports. The trade at Ponnani, Badagara, Tellicherry and Cannanore is mainly coastal.

During the year 1960-61, the total value of exports through the ports of Kerala was about Rs. 109.4 crores. Of this the value of exports to the foreign countries was about Rs. 67.2 crores, the balance being the value of exports to other ports in India. Some of the important commodities exported were pepper, lemongrass oil, ginger, cardamom, cashew kernels, copra, coir and coir products, tea, coffee and rubber exports. The percentage contribution of some of these commodities to the total value of annual exports is given in the subjoined table.

Table—30

	1956-57	1957-58	1958-59	1959-60	1960-61
Tea	27	29	24	22	21
Pepper	6	4	4	11	9
Cashew kernel	14	16	16	15	16
Coir & Coir products	12	10	10	9	9
Others	41	41	46	43	45
TOTAL	100	100	100	100	100

Pepper is one of the most important foreign exchange earners for the country. In India, its production is almost concentrated in the State. U. S. A. and United Kingdom are the traditional buyers of this commodity. For some years India held a practical monopoly of pepper in the world market. But of late the trade in pepper is facing competition from Indonesia, Sarauak and Malaya.

Like pepper, production of cardamom in India is also mainly confined to this State. For this commodity also competition from other countries like Ceylon is increasing. The principal consumers of cardamom are United Kingdom, U. S. A., Sweden, Russia and Germany.

World demand for lemongrass oil is mostly satisfied by Kerala. Among the essential oils exported from India, it ranks second in respect of foreign exchange earned. The biggest consumer of lemongrass oil in the world is U. S. A. Other important buyers are U. K., France, Holland and Switzerland.

Kerala holds a near monopoly position in the world market in the sale of cashew kernels. The largest traditional importer of Indian cashew kernels is U. S. A. Russia has come in as an important buyer during 1960-61. Other big buyers of the commodity are United Kingdom, Canada, Australia and some countries of Western Europe. During 1960-61, 35435 tonnes of cashew kernels valued as Rs. 16.95 crores were exported from the ports in Kerala.

In India, the production of coir and coir products is almost entirely concentrated in Kerala. The important consumers of this product are Netherlands, West Germany, United Kingdom, France, Italy, Belgium, and Switzerland.

Tea, rubber and coffee are the important plantation crops in the State. These three commodities account for nearly one third the total value of exports.

The annual value of some of the important exports for the past few years are given below:

**Table—31**  
VALUE OF EXPORTS (FOREIGN & COASTAL) FROM THE PORTS OF KERALA (RS. IN LAKHS)

Commodity	1956-57	1957-58	1958-59	1959-60	1960-61
Pepper	484.57	334.49	333.21	1137.99	934.27
Ginger	240.21	76.97	59.14	113.91	176.34
Cardamom	58.51	61.73	64.05	55.49	79.27
Lemongrass oil	147.19	138.41	92.75	141.43	200.76
Cashew kernels	1194.11	1371.30	1432.42	1572.35	1695.22
Coir & Coir products	1033.88	900.70	911.50	929.34	978.94
Tea	2233.71	2507.86	2232.26	2239.54	2312.32
Coffee	200.56	144.91	260.48	243.17	205.64
Rubber	696.48	684.68	661.68	592.99	821.26
Timber	108.31	168.07	211.95	238.31	284.98
Others	1906.47	2225.88	2967.56	3589.37	3259.78
Total	8304.00	8615.00	9227.00	9853.89	10939.78

Sterling area (non-coastal) remained the largest consumer of Indian tea during the past years. Cashew kernels, cashew shell liquid, pepper, turmeric and lemongrass oil largely found their market in the hard currency area. It has however to be noted that in 1960-61, the U. S. S. R. was the foremost buyer of Kerala pepper. Soft currency areas showed the highest demand for cardamom, coir and coir products and coffee, betelnuts, cocoanuts, copra, ginger, rubber & timber were mainly exported to other ports of India which exports have been classified under Sterling (Coastal).

The total value of imports by sea into Kerala for the year 1960-61 was Rs. 74.1 crores. The important commodities imported by the State are coal, coke and other fuels, cotton raw and manufactured, raw cashewnuts, machinery and mill works, kerosene oil, metals and ores, motor spirit and grains. Judging by the export—import figures for the past few years it could be inferred that the balance of trade is favourable to the State.

*Rail-borne trade:* The most important commodities sent to other States by rail are Pepper, Ginger, Betelnuts, Tea, Cashewnuts, Copra, Coconut oil, Eggs, Wood and Timber, Bricks and tiles and chemical manure. The main items of import are rice, wheat, sugar, cement, iron and steel, beedi leaves and oil seeds.

*Air-borne and road-borne trade:* Reliable data on goods moved by air, and road are lacking at present.

## XV Some Aspects of Economic Development in Kerala

The main indices of economic prosperity of a community are income, expenditure and employment. A brief statistical picture of these three aspects of the economy of Kerala is given below:

*Income (Regional):* Due to the various activities of development, the regional income of the State has recorded a steady increase. Provisional figures of the regional income at cur-

rent prices for the past few years are given below:

**Table—32**

Year	Regional income estimates (Rs. in crores)	Per capita income (Rs.)
1955-56	349.90	232.71
1956-57	383.97	249.78
1957-58	409.28	260.44
1958-59	435.70	271.19
1959-60	469.95	286.12
1960-61	515.32	306.89

The main sectors contributing to the regional income in order of importance are (i) Agriculture, (ii) Transport and Commerce, (iii) Small enterprises, (iv) Factory establishments and (v) Profession, Arts and Domestic Services.

The regional income at current prices has shown a rise of 47.27% in 1960-61 over that of 1955-56. The rise in per capita income during the period was 31.87%.

There has been steady increase in agricultural and industrial output during the last few years.

The indices (base 1956-57) of agricultural production for the years 1957-58 to 1961-62 are given in the sub-joined table:

**Table—33**

Year	Index of Agricultural Production
1957-58	102.2
1958-59	105.5
1959-60	110.9
1960-61	111.7

The value of output per acre has also been slowly rising. The value of net output per acre (of net area sown) at prices prevailing in 1955-56 for the years 1960-61, 1961-62 and 1962-63 were Rs. 360.15, 364.04 and 377.43 respectively.

The estimated value of Industrial production during 1960-61, 1961-62 and 1962-63 at (1955-56) prices were Rs. 48.8, 53.7 and 54.4 crores respectively.

*Consumer expenditure (Household):* The per capita monthly consumer expenditure for the State and also for the rural and urban sectors for the past few years are given in the following table. These are estimates obtained mainly from the data collected in the National Sample Survey. The estimates appear to be on the low side. However, the rising trend



in the expenditure revealed by the figures seems to be real.

Table—34

PER-CAPITA MONTHLY CONSUMER EXPENDITURE (in Rs.)			
Year	Rural	Urban	State
1958-59	15.09	21.46	16.03
1959-60	17.01	23.72	17.98
1960-61	19.95	24.39	20.59

The per-capita consumer expenditure in rural areas is comparatively lower than that in the urban areas.

There has been no appreciable change in the consumption pattern of items during these years. In both the rural and urban sectors nearly 70% and 30% of the expenditure were for food and non-food items respectively. Nearly 36% of the expenditure was on food-grains alone. The expenditure on milk and milk products, meat, fish and eggs, edible oil and clothing were comparatively low.

The percentage expenditure under various items of consumption were as follows:

Table—35

Items	Percentage expenditure
Food grains	35.13
Milk & Milk products	3.35
Edible oils	2.45
Meat, fish and egg	4.69
Sugar	2.06
Other food items	16.43
Clothing	3.69
Fuel and light	6.06
Rent	10.00
Other non-food items	16.14
TOTAL	100.00

**Employment:** The present employment situation in the State does not give room for any satisfaction. The facilities now available in the State cannot provide employment for all the persons in the labour force. There is appreciable unemployment and under-employment of manpower.

The distribution of workers (in lakhs) in the various categories (1961 Census) are given in the following table:

Table—36

Industrial categories	Male	Female	Total	% to total
Cultivators	9.04	2.74	11.78	20.92
Agricultural labourers	5.17	4.61	9.78	17.37
Mining, Quarrying, Livestock, Forestry, Fishing, Hunting, Plantations and allied activities	3.98	0.80	4.87	8.66
Household industry	1.89	3.00	4.89	8.68
Manufacturing other than household industry	3.93	1.36	5.29	9.40
Construction, Trade and commerce	0.68	0.03	0.71	1.26
Trade and commerce	2.98	0.24	3.22	5.72
Transport, Storage & Communications	1.45	0.08	1.53	2.71
Other services	10.35	3.83	14.23	25.28
TOTAL	39.47	16.83	56.30	100.00

The proportion of workers in the total population is nearly 1/3 (33.31%).

Workers engaged in agriculture and allied activities constitute the major portion of the workers. Persons engaged in household and manufacturing industries are comparatively few in number. One fourth of the workers are engaged in other services. The percentage of males and females among workers are 70.10 and 29.90 respectively.

**Unemployment:** A recent survey on employment and unemployment conducted by the Department of Statistics has revealed that the number of unemployed in the State is nearly 7.60 lakhs consisting of 4.74 lakhs of males and 2.86 lakhs of females. Nearly 11% of the males and 21% of the females in the labour force are unemployed. The total unemployed constitutes nearly 14% of the labour force. There was another 1.28 lakh persons reported as available for employment who are treated as outside the labour force being either below the age of 15 or above 55.

**Future position of employment:** The labour force available at the beginning of the Third Plan was 53.74 lakhs out of which 46.14 lakhs are employed. The size of labour force at the end of the Third Plan period is roughly estimated to be 62.27 lakhs, assuming that the

present rate of growth would continue upto the end of the period. The estimated number of new jobs that will be generated during the period from the Plan schemes is nearly 6.60 lakhs. The number of unemployed persons at the end of the Third Plan is likely to be of the order of 9.53 lakhs.

**Investment:** In order to reduce the social inequalities and economic backwardness of our people, we have been investing considerable amount of money through our Five Year Plans. The Plan expenditure for the first and second Plans was Rs. 25.89 crores and Rs. 85.05 crores respectively. The provision under the Third Plan is Rs. 170.00 crores. The percentage expenditure under various development heads for the first and second Plans of Kerala State and the percentage provision for the Third Plan are given below:

Table—37

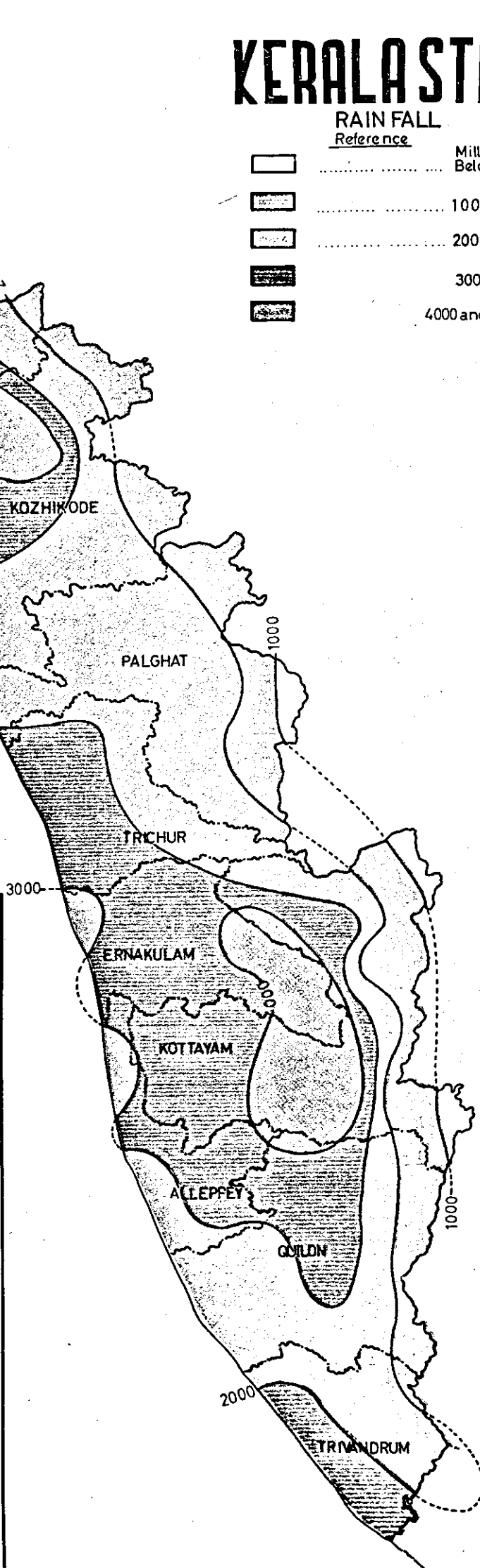
Head of Development	1st Plan	2nd Plan	3rd Plan
Irrigation and power	60.7	36.3	34.8
Transport and communications	13.0	9.7	6.4
Agriculture & Community Development	9.6	15.7	25.3
Industry and Mining	1.9	7.3	10.1
Social Services & Misc.	14.8	31.0	23.4
TOTAL	100.0	100.0	100.0

# KERALA STATE

## RAIN FALL



Reference

Reference	MilliMetres
	Below 1000
	1000 - 2000
	2000 - 3000
	3000 - 4000
	4000 and above



# KERALA STATE

## AREA & PRODUCTION OF RICE (1960-'61)

 AREA IN 10000 HECTARES  
 PRODUCTION IN 20000 M.TONS  
 (figures near symbol denote in thousands)



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K.T.V

95.7 CANNANORE



101.1

KOZHIKODE 108.1



116.7

PALSHAT



306.0

TRICHUR



102.2



126.1



192.1

ERNAKULAM



77.9



107.0



40.0

KOTTAYAM

79.4



64.0

ALLEPPEY



120.5

QUILON



46.2



69.3

37.4



57.3




TRIVANDRUM




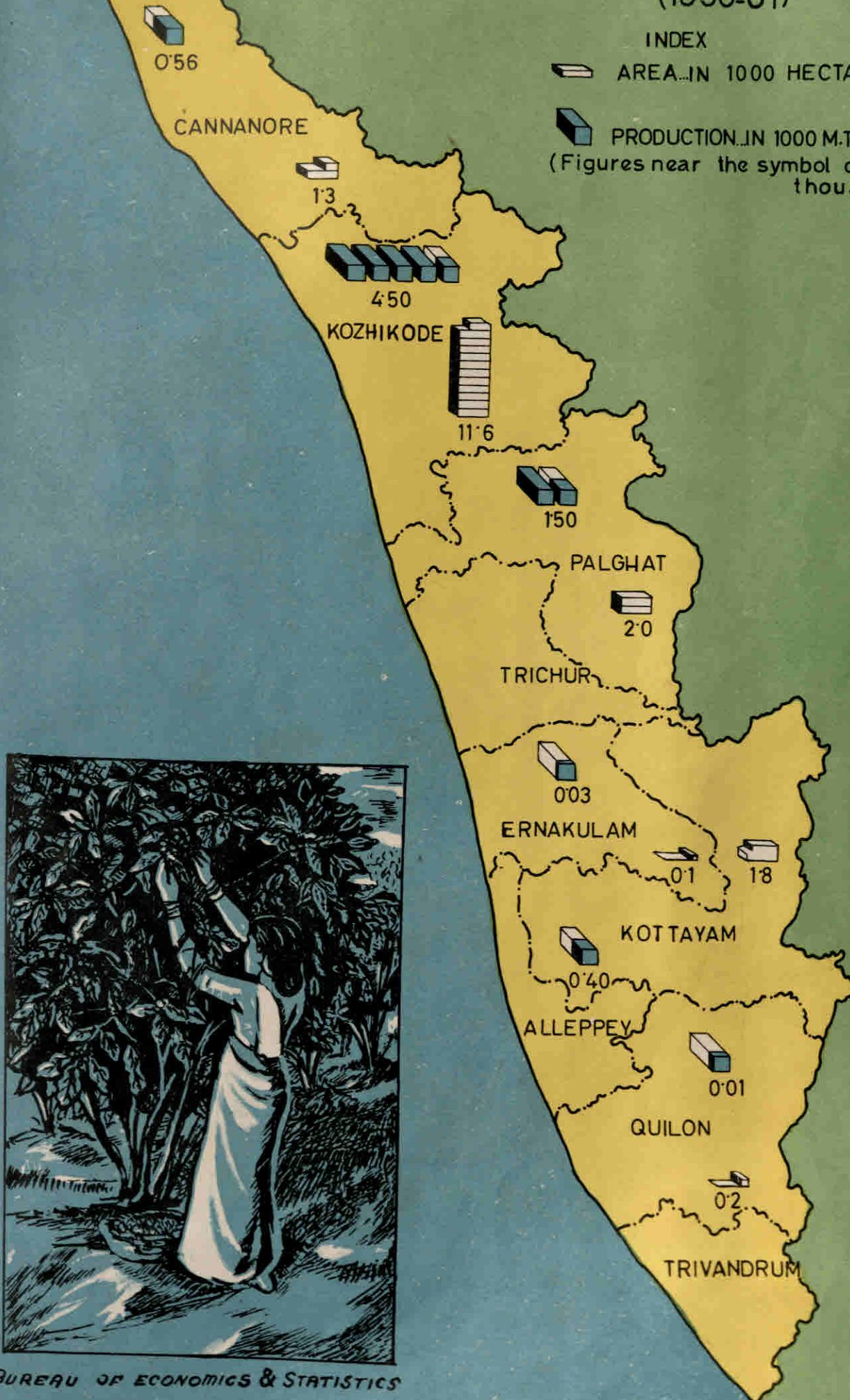
# KERALA STATE

## AREA & PRODUCTION OF COFFEE (1960-61)

### INDEX

 AREA IN 1000 HECTARES

 PRODUCTION IN 1000 M.TONS  
(Figures near the symbol denote thousands)

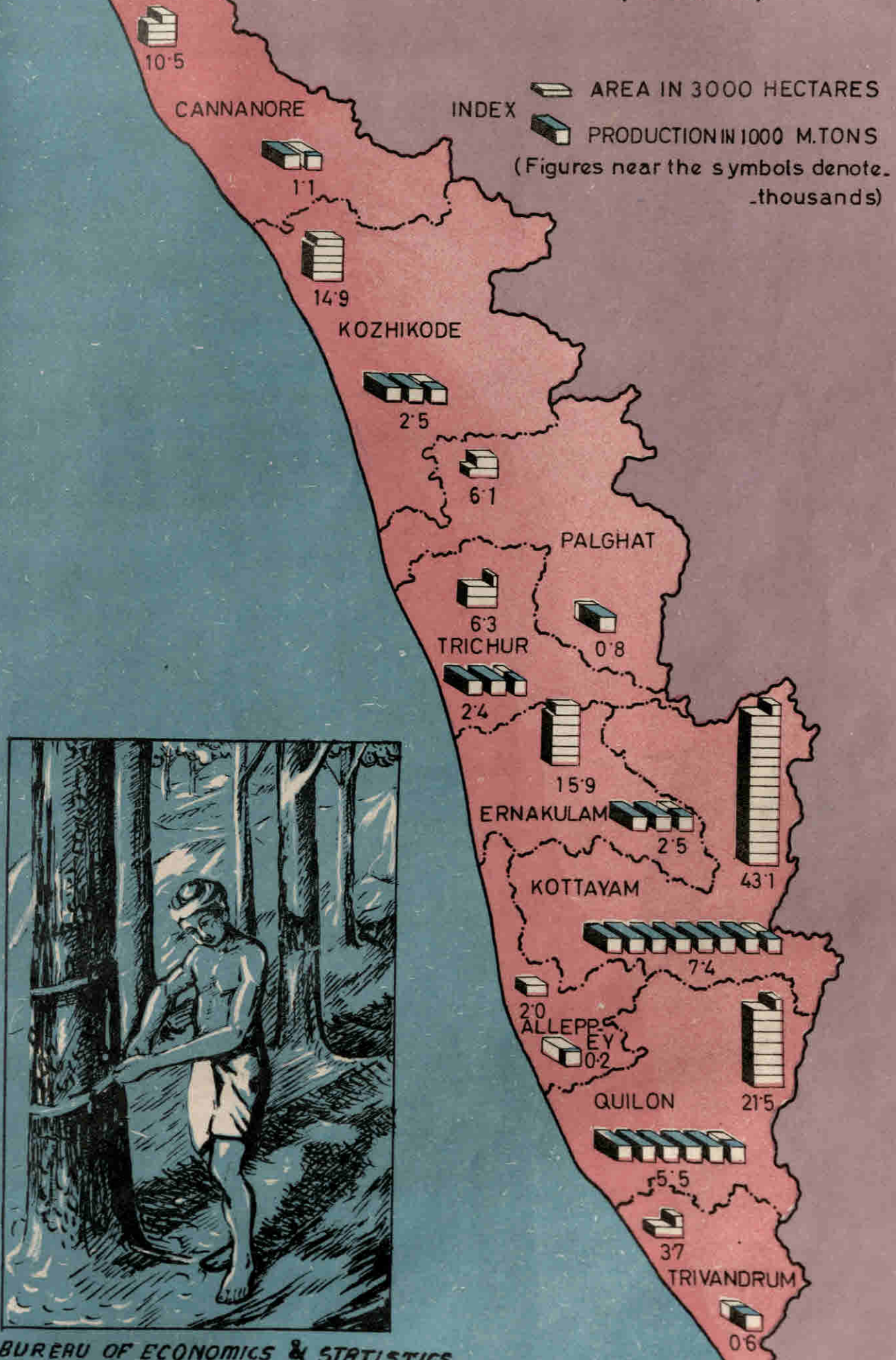


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# KERALA STATE

## AREA & PRODUCTION OF RUBBER (1960-61)



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
R.P.



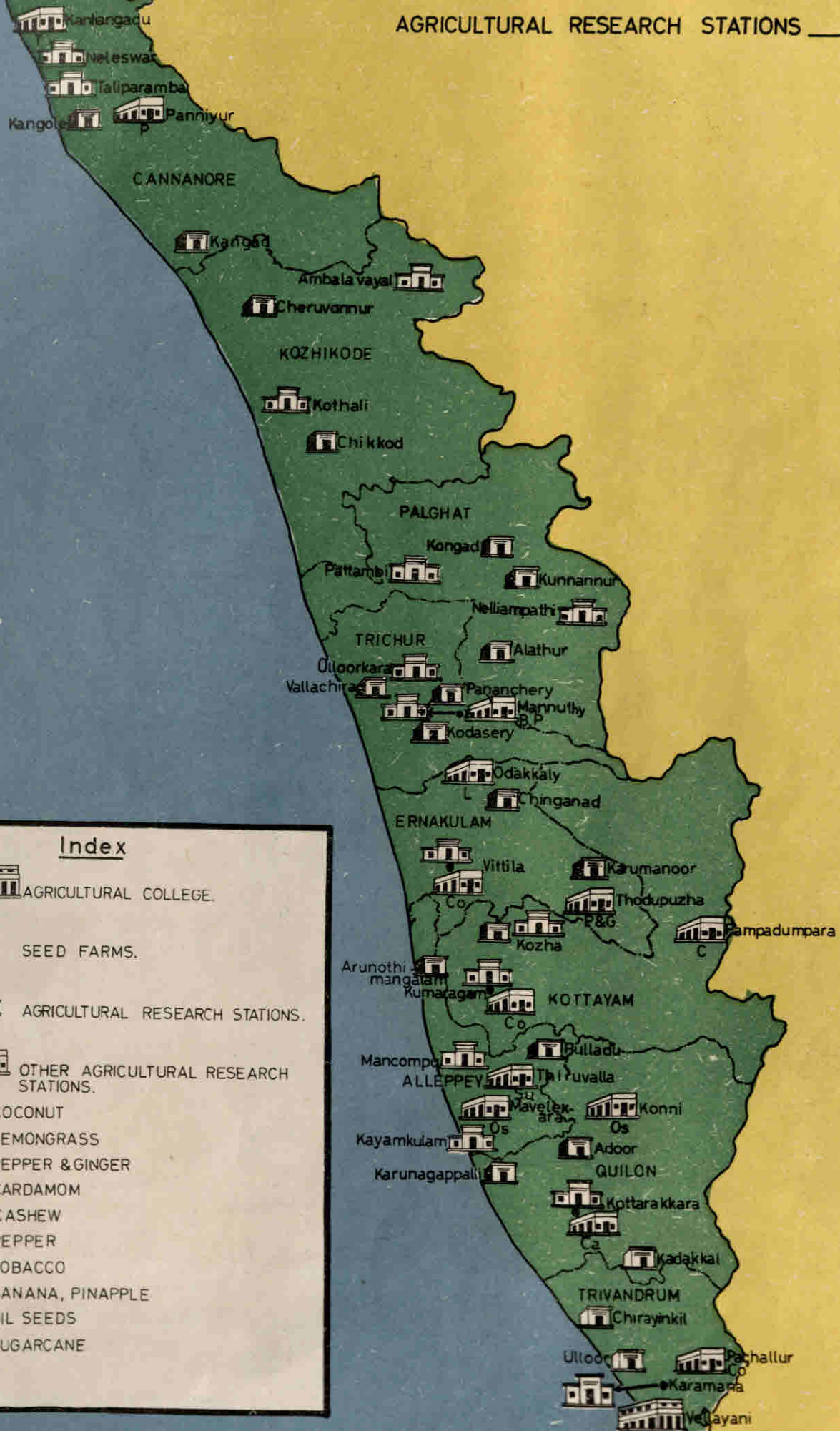
# KERALA STATE

AGRICULTURAL RESEARCH STATIONS \_\_\_ 1961

**Index**

-  AGRICULTURAL COLLEGE.
-  SEED FARMS.
-  AGRICULTURAL RESEARCH STATIONS.
-  OTHER AGRICULTURAL RESEARCH STATIONS.

Co\_\_ COCONUT  
 L \_\_\_ LEMONGRASS  
 P&G\_ PEPPER & GINGER  
 C \_\_\_ CARDAMOM  
 Ca\_\_ CASHEW  
 P\_\_ PEPPER  
 T\_\_\_ TOBACCO  
 B.P.\_ BANANA, PINAPPLE  
 Os\_\_ OIL SEEDS  
 Su\_\_ SUGARCANE













# KERALA STATE

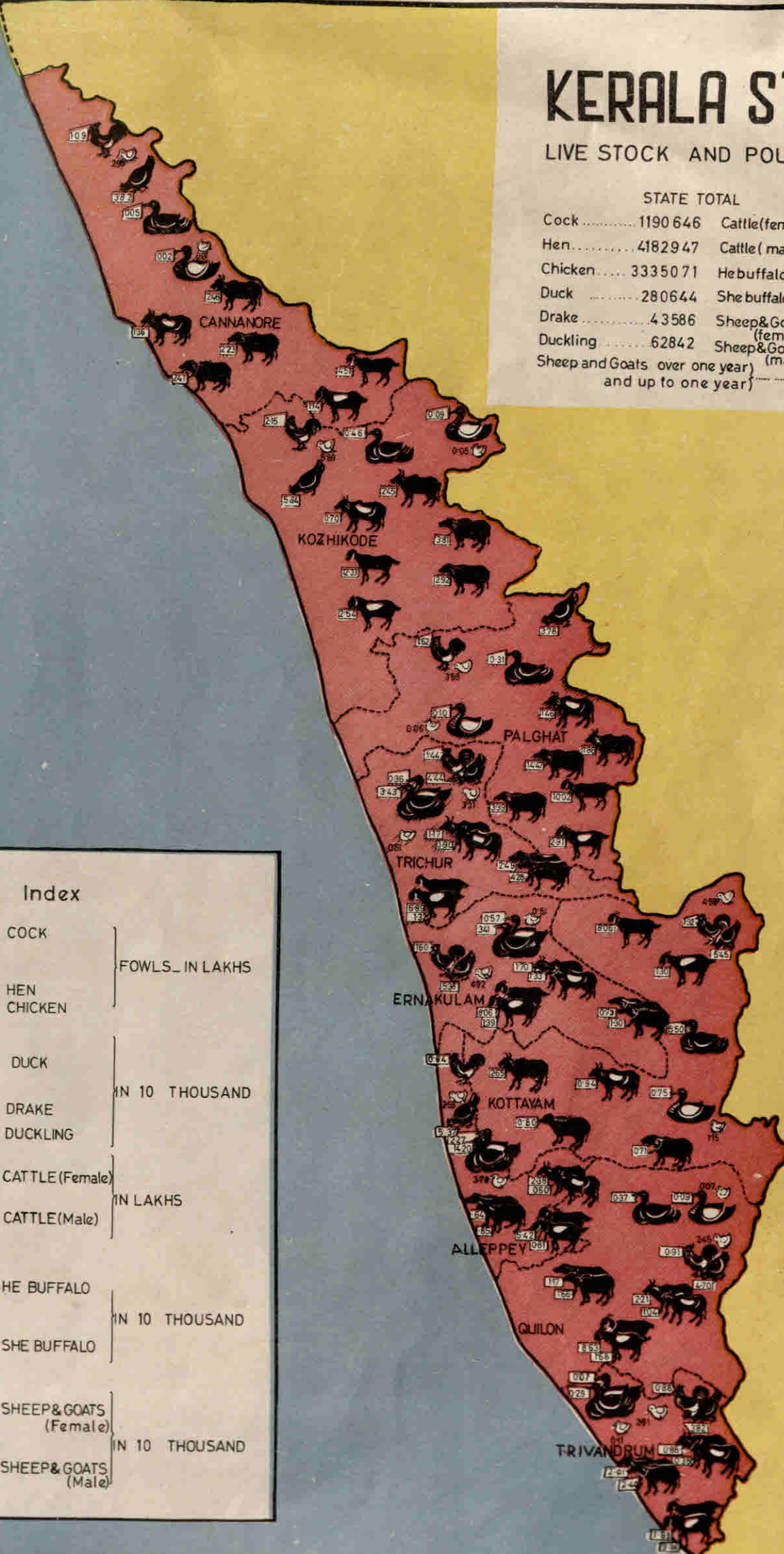
LIVE STOCK AND POULTRY 1961

STATE TOTAL

Cock .....	1190 646	Cattle(female).....	1779636
Hen .....	41829 47	Cattle( male ).....	973529
Chicken.....	33350 71	Hebuffalo.....	320125
Duck .....	280644	She buffalo.....	164964
Drake .....	43586	Sheep&Goats.....	738744
Duckling .....	62842	Sheep&Goats (female).....	149619
Sheep and Goats over one year).....		Sheep&Goats (male).....	1336503
and up to one year).....			

**Index**

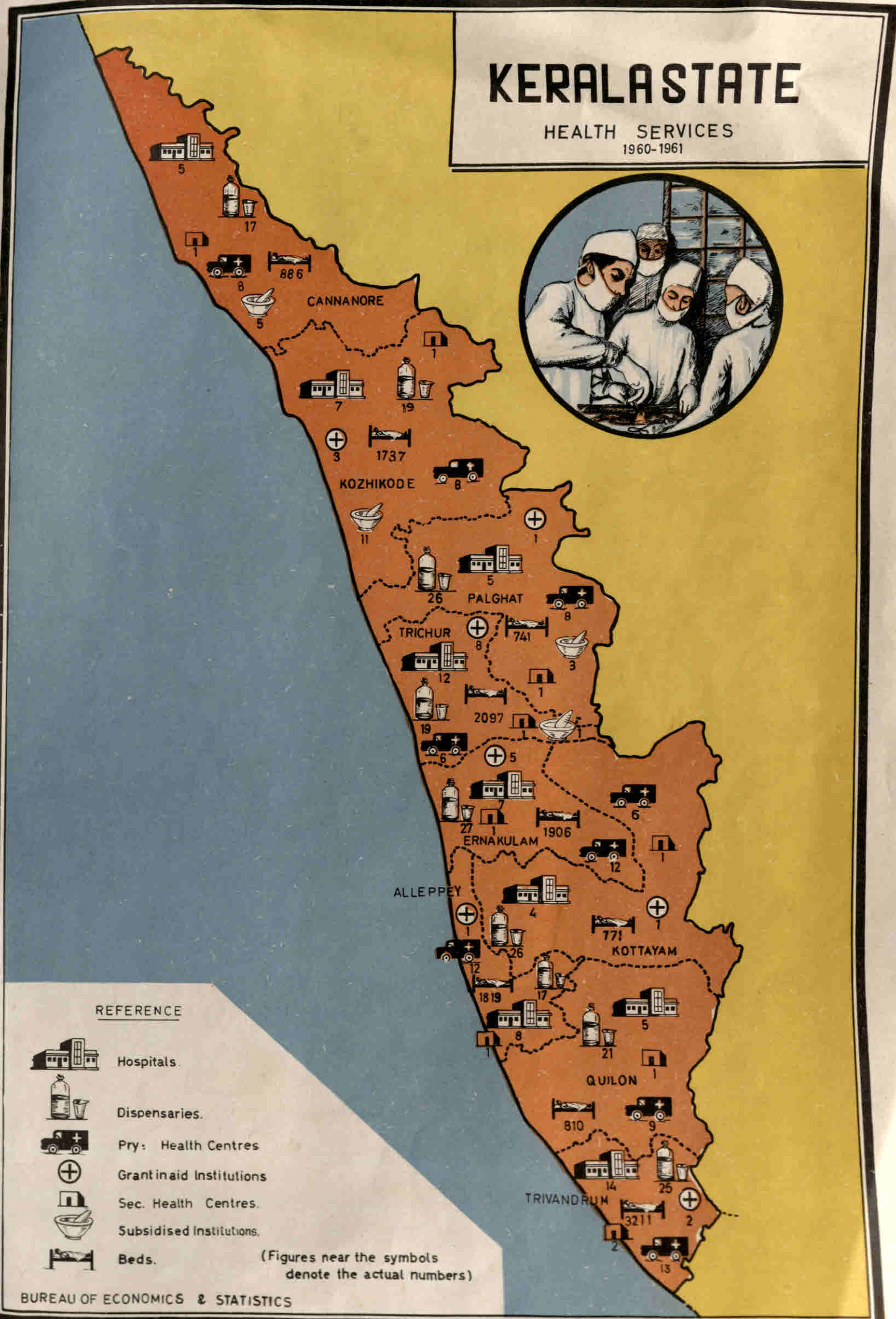
	COCK	} FOWLS_ IN LAKHS
	HEN CHICKEN	
	DUCK	} IN 10 THOUSAND
	DRAKE DUCKLING	
	CATTLE (Female)	} IN LAKHS
	CATTLE (Male)	
	HE BUFFALO	} IN 10 THOUSAND
	SHE BUFFALO	
	SHEEP & GOATS (Female)	} IN 10 THOUSAND
	SHEEP & GOATS (Male)	






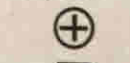





# KERALA STATE

HEALTH SERVICES  
1960-1961



REFERENCE

-  Hospitals.
-  Dispensaries.
-  Prv. Health Centres
-  Grant-in-aid Institutions
-  Sec. Health Centres.
-  Subsidised Institutions.
-  Beds.

(Figures near the symbols denote the actual numbers)



# KERALA STATE

## GOVT. AYURVEDIC INSTITUTIONS

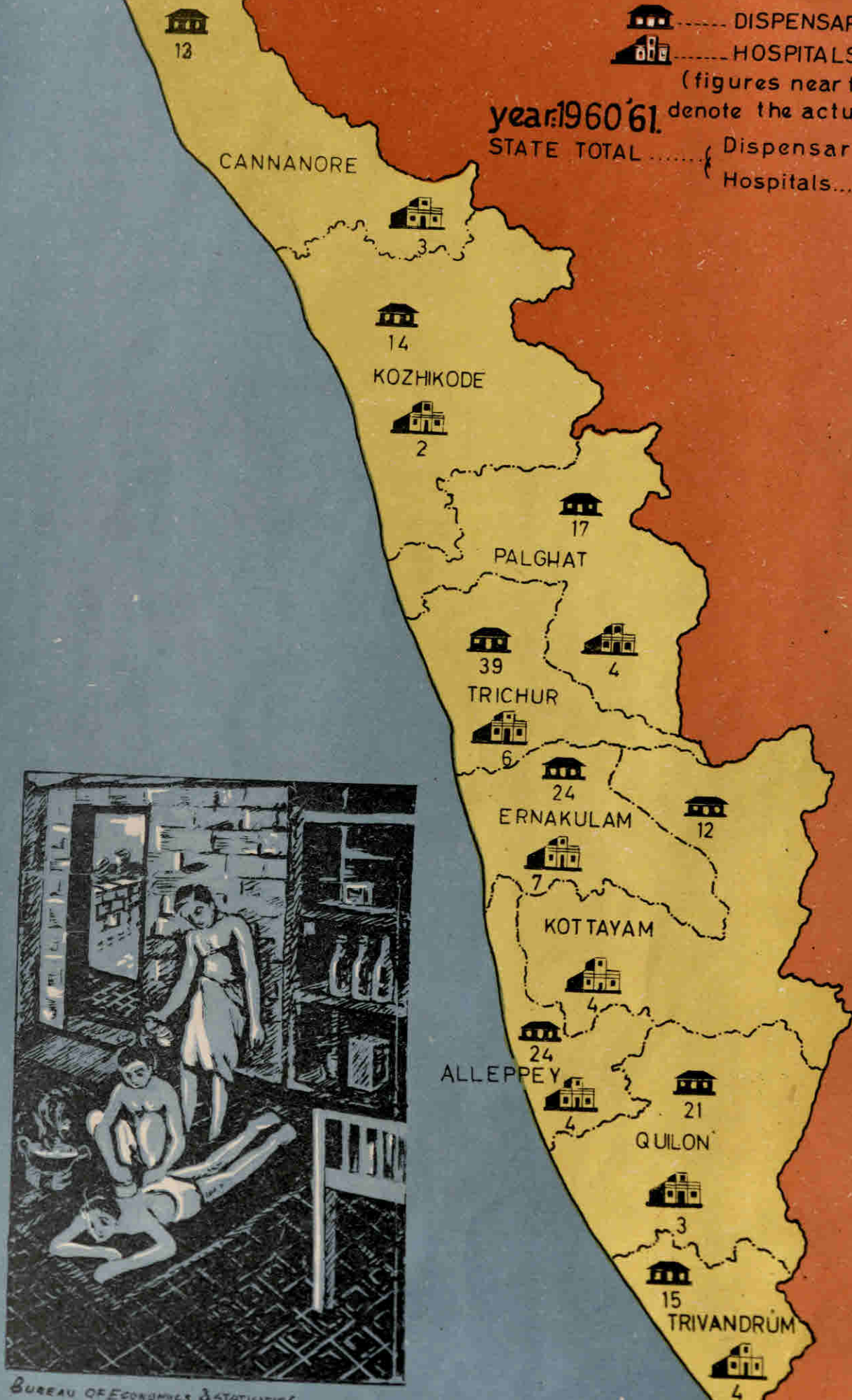
 ..... DISPENSARIES

 ..... HOSPITALS

(figures near the symbols denote the actual numbers)

year: 1960'61.

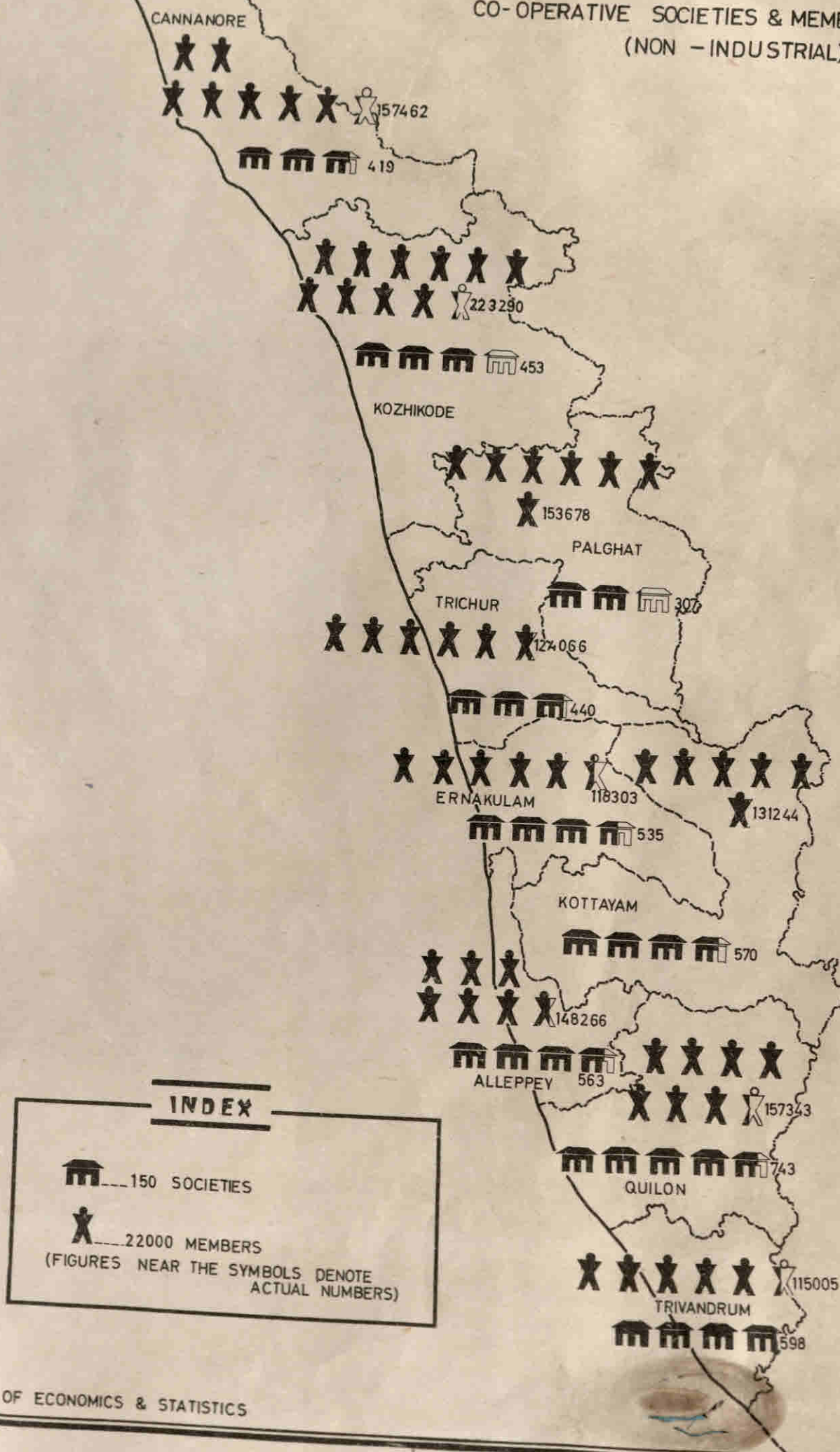
STATE TOTAL ..... Dispensaries ..... 178  
 Hospitals ..... 37




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# KERALA STATE

CO-OPERATIVE SOCIETIES & MEMBERSHIP (1960-'61)  
(NON - INDUSTRIAL)



## INDEX

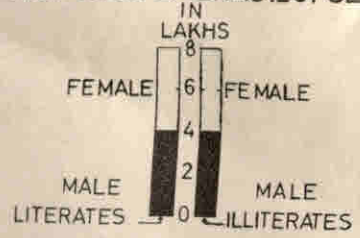
 150 SOCIETIES

 22000 MEMBERS  
(FIGURES NEAR THE SYMBOLS DENOTE ACTUAL NUMBERS)



# Kerala State

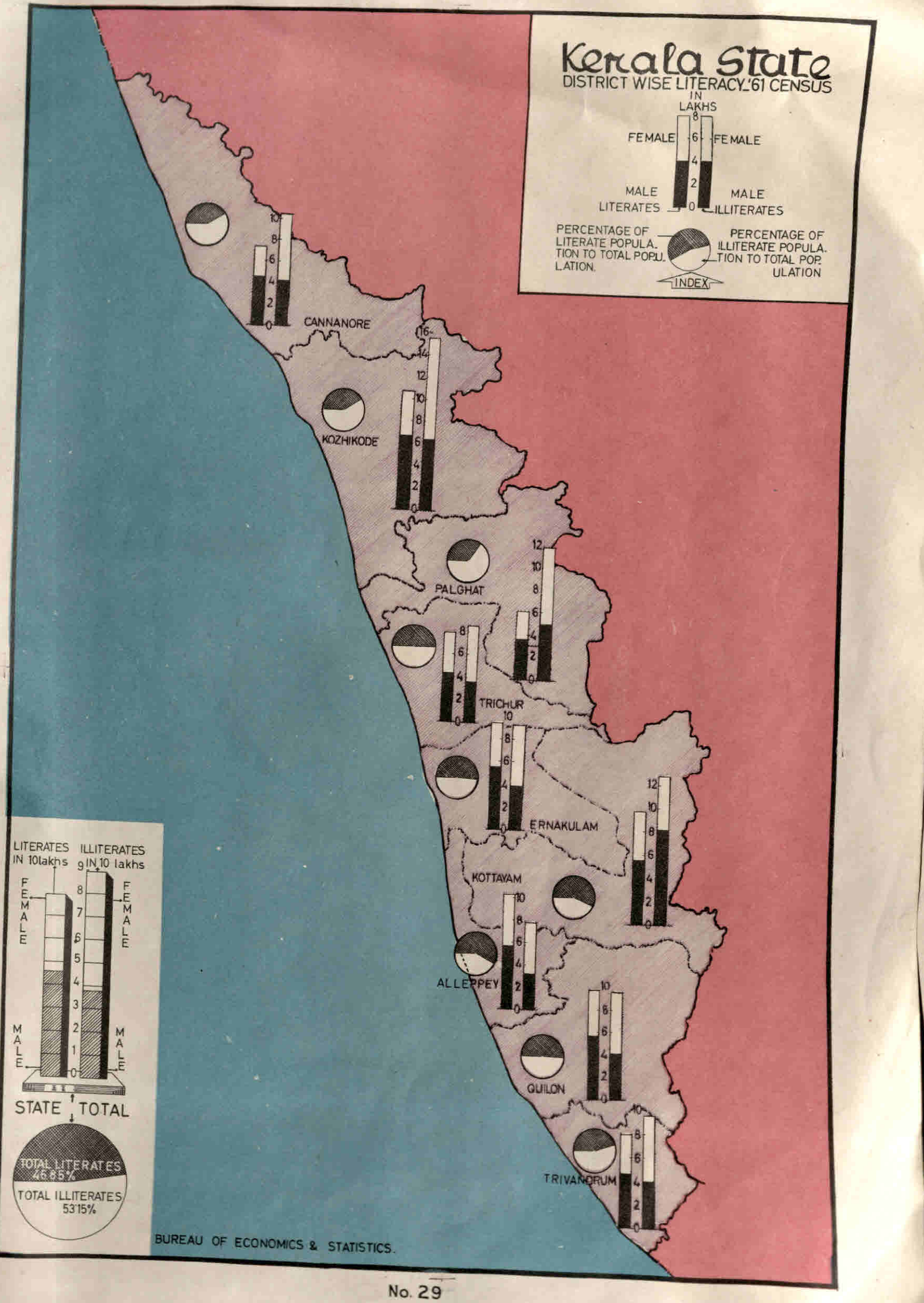
DISTRICT WISE LITERACY '61 CENSUS



PERCENTAGE OF LITERATE POPULATION TO TOTAL POPULATION

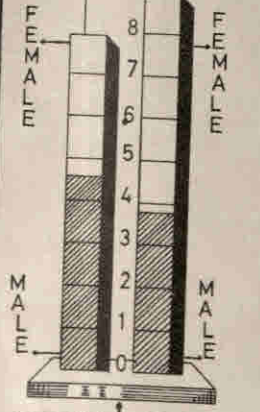
PERCENTAGE OF ILLITERATE POPULATION TO TOTAL POPULATION

INDEX

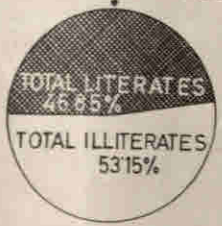


LITERATES IN 10 lakhs

ILLITERATES IN 10 lakhs



STATE TOTAL



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# KERALA STATE

HIGHER EDUCATION  
NO OF COLLEGES & INSTITUTIONS, 1960-'61



**INDEX**

- Arts & Science College.
- Engineering College
- Medical College
- Law College
- Veterinary College
- Agriculture College
- Polytechnics & Other Tech. Schools
- Training College
- Physical Education College
- Co-operative College
- Ayurveda College
- Research Institute
- Oriental College

(The figure near the symbol denotes more than one Institution of the same)

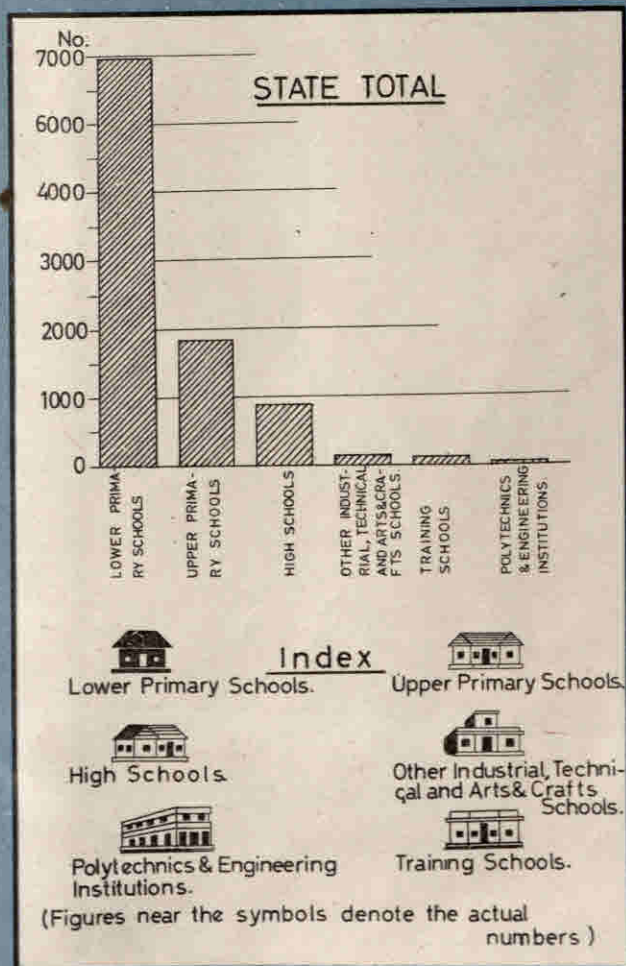
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# KERALA STATE

EDUCATIONAL INSTITUTIONS (1960-61)  
SCHOOL EDUCATION



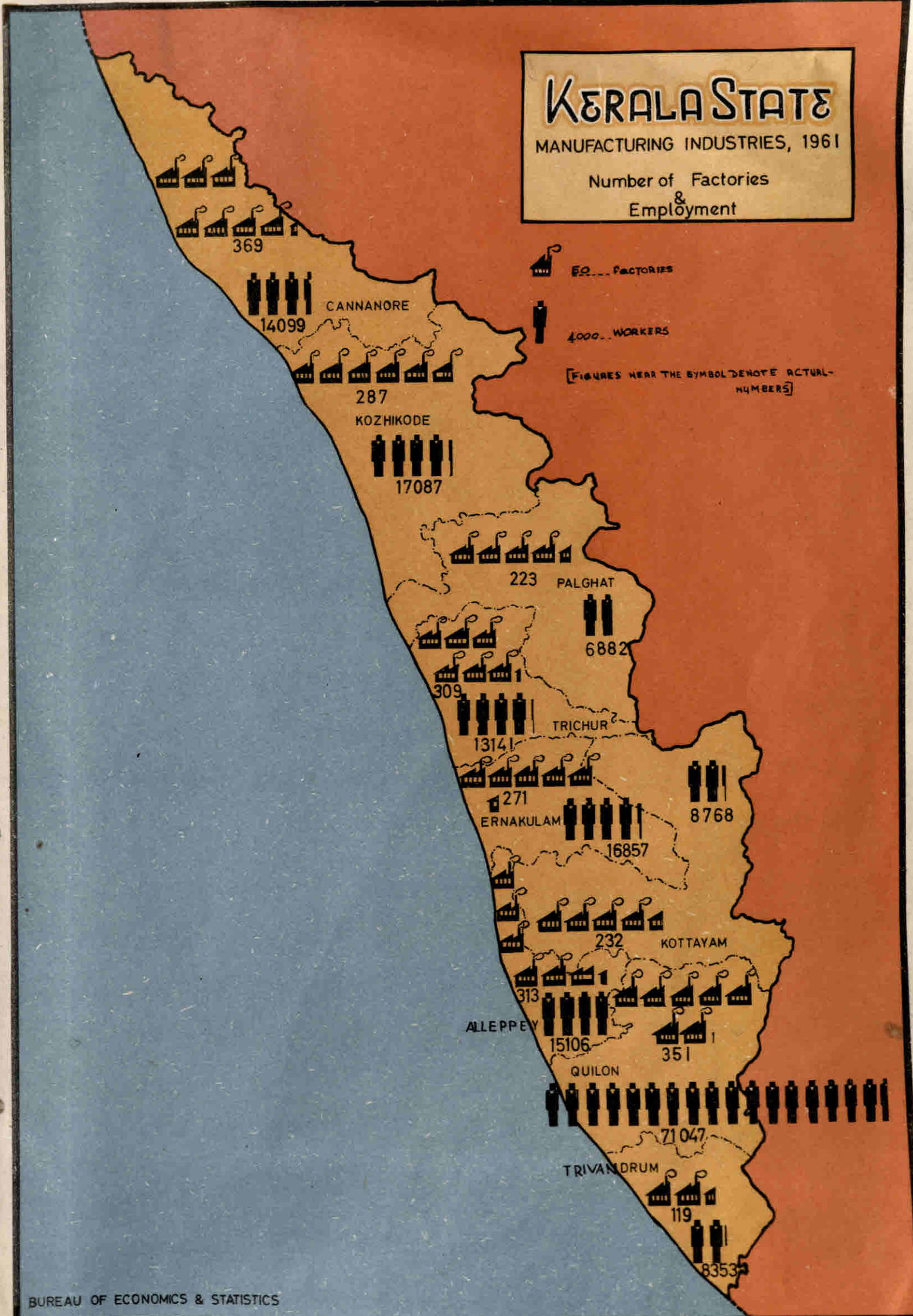
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# KERALA STATE

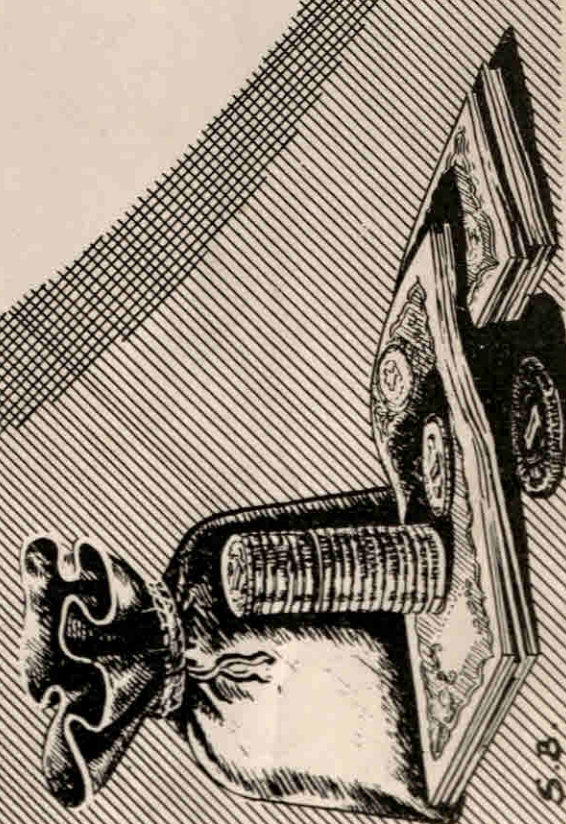
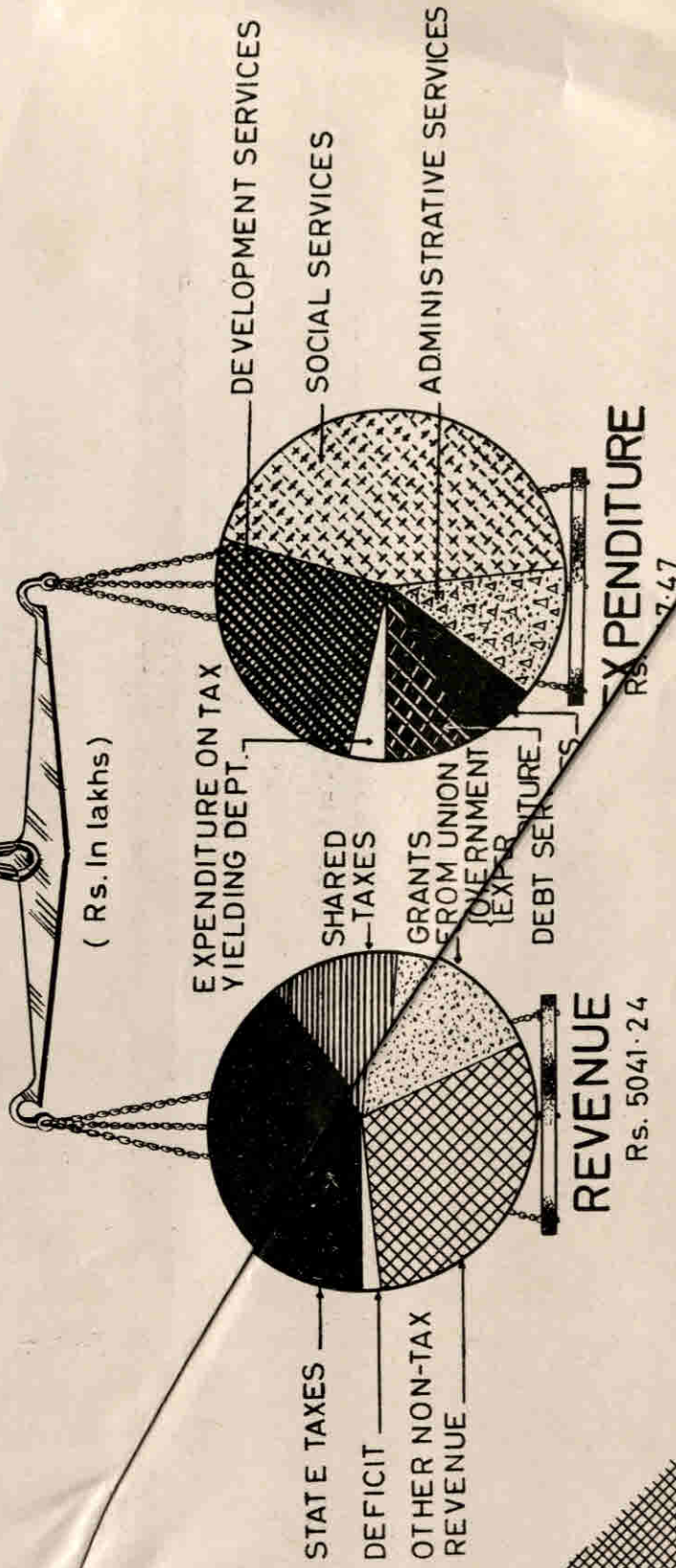
MANUFACTURING INDUSTRIES, 1961

Number of Factories  
&  
Employment





# STATE FINANCE, 1960-61



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