GOVERNMENT OF KERALA

PLANNING FOR EMPLOYMENT IN KERALA

BUREAU OF ECONOMICS AND STATISTICS
TRIVANDRUM

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KERALA

CONTENTS

CONTENTS

INTRODUCTION

The problem of unemployment and underemployment is both chronic and acute in Kerala. Next to the serious food shortage, this is perhaps the most important problem facing the State. In a large measure both the problems have their origin in the rapid increase in the population of the State. The population growth here during the present century, particularly after 1921—the year demographers call 'The Great Divide'—has been phenomenal. The increase in the labour force during the last 45 years has been of the order of 4 millions. Employment opportunities have never caught up with the galloping labour force as the economy of the State has predominently been agricultural. As early as in the nineteen twenties, an Unemployment Enquiry Committee was set up in the former Travancore State to enquire into the educated unemployment in this State. This Committee found that there were three educated employment seekers available for every suitable job. The decennial census reports also revealed a progressive increase in the number of unemployed.

In 1956 a sample survey on unemployment was conducted in the former Travancore Cochin State. With a view to obtaining comparable estimates pertaining to the whole State of Kerala, a similar survey was conducted in the Malabar and Kasargod areas also soon after the reorganisation of the States. Details of underemployment were also collected in these surveys. In early 1962, another sample survey was conducted which again provided estimates of employment, unemployment and underemployment. Useful data of the employment pattern were also thrown out by the National Sample Survey in its fourteenth round.

All these surveys were based on relatively small sample sizes and hence the estimates obtained from them were subject to large sampling errors. While they provided useful information on the totality of the problem, reliable estimates of detailed aspects of unemployment could not be obtained from them. Also breakdowns for smaller administrative regions were necessary for initiating action on the basis of the results.

Sri Tarlok Singh, Member, Planning Commission, suggested in 1965 that information on the structure of employment in relation to the Five Year Plan and the Annual plans should be built up in such a way that there would be a frame against which the performance and the action needed could be reviewed at regular intervals. A major

study into the structure of employment and unemployment in Kerala was initiated in July 1965;

The objects of the study were:—

(a) to ascertain the existing structure and composition of employment in the State;

(b) to assess the size and character of employment and under-employment in different sectors (e.g., agriculture, fisheries, traditional and low-wage industries etc.) and to identify areas in different districts requiring special attention;

(c) to study industrial and other development of recent years and to suggest the specific directions in which from the aspect of expansion of employment opportunities along with improvement of productivity, economic development plans for the Fourth and Fifth Plan periods could be re-oriented and strengthened.

The study was undertaken jointly by the Bureau of Economics and Statistics and the Directorate of Employment and Training of the State assisted by the Directorate General of Employment and Training, Government of India under the direction of a Technical Advisory Committee.

As a first step a sample household survey was conducted during October November 1965. The staff at the headquarters consisted of a Deputy Director, a Research Officer, one L. D. Clerk, one L. D. Typist and a Peon. The field staff consisted of three Regional Supervisors, 48 Investigators and three Peons. In addition to the regional Supervisors, one Research Assistant was posted in each district for the supervision of field work. Shri G. Kuttappan Pillai was appointed as Deputy Director for the study and Shri G. Velayudhan Thampi, Shri K. Ramanarayanan Nair and Shri S. Cecil were posted as Regional Supervisors. Shri N. G. K. Nair, Deputy Director and Shri K. Narayanan Nair, Assistant Director rendered valuable help in designing the survey.

A technical Advisory Committee with Prof. V. R. Pillai, Professor of Economics, University of Kerala, as Chairman and Dr. P. G. K. Panicker, Reader in Economics, University of Kerala, Prof. K S. Lekshmana Panicker, Professor of Economics, University College. Shri V. Ramachandran and later Shri R. Gopalaswamy, Planning Secretary to Government, Shri T. V. Swaminathan, Director of Employment and Training, Dr. P. K. Gopalakrishnan, Director, Bureau of Economics and Statistics and Shri N. Gopalakrishnan Nair, Additional Director, Bureau of Economics and

Statistics, as Members, guided the studies. Shri N. Gopalakrishnan Nair was in overall charge of the studies.

The Report of the study including the sample survey was prepared by Shri S. Krishna Iyer, Shri A. Balakrishnan and Shri P. M. Ramachandran Nair, Research Officers under the guidance of Shri N. Gopalakrishnan Nair, Additional Director. Shri N. G. K. Nair, Deputy Director and Shri T. R. Thankappan Asari, Assistant Director also rendered valuable help in the preparation of the Report.

Part I of this Report gives an insight into the general economy of Kerala and earlier assessments of employment and unemployment. Detailed discussions on the sample survey and its findings are contained in Part II. Part III deals with the tasks and possibilities for employment and development during the Fourth and Fifth Plan periods. The main conclusions of the study in summary form are presented in Part IV. Appendices containing the data thrown out by the sample survey form Part V.

PART I

THE ECONOMY OF KERALA

CHAPTER I

EARLIER ASSESSMENTS OF EMPLOYMENT AND UNEMPLOYMENT IN KERALA

Very little is known about the employment and unemployment situation in Kerala during the early years of this century. Scattered evidences from earlier census reports and remarks made in the State Manuals do however indicate that unemployment of any serious magnitude did not exist here. Buchanan described the economic conditions of the State in the opening years of the 19th century as follows:—"The bulk of the rural population is contended as prosperous. The whole country presents a most pleasing picture of light but diversified labour, health content and comfort unruffled by anxiety, unembittered by rivalries". Speaking in 1871, Rev. Mateer observed: "Considerable activity in industrial and commercial persuits, elementary arts and agriculture prevails in Travancore so that a large proportion of the people are usefully occupied in various forms of productive labour". This state of affairs has slowly changed over the decades. The breakup of the Tarwad (joint family) system in the State during the early part of the current century, while increasing the ranks of owner cultivators in some measure, led to widespread underemployment among them as a result of large scale sub-division of holdings. The phenomenal growth of modern educational facilities has added a qualitative dimension to the problem. Unemployed matriculates, diploma and degree holders have increased very fast during the last few years with the increase in the output of the schools, colleges and technical institutions. Another factor which has great qualitative impact on the problem of unemployment in Kerala is the significant advance made in female education. The combination of an underdeveloped economy with limited employment opportunities, a very high density of population and a high proportion of educated females is perhaps a unique feature of Kerala. The problems arising out of this rare combination of factors are also unique. The population of the State has been growing at a very rapid rate. The decennial variation of population of Kerala since 1881 kept an increasing tempo, except during 1891-1901, 1911-1921 and 1931-41. The rate of decennial increase shot up from 11.54 per cent during 1881-1891 to 24.76 per cent during 1951-61.

This rapid increase of population naturally imposed restrictions on the percapita availability of resources. Today the per capita availability of land is lowest in Kerala among the Indian States. Over the decades the percapita area of land available in

the State uniformly decreased to 57 cents in 1961 from 3.64 acres in 1836.

The increase in the number of workers was not commensurate with the increase in the population during the past few decades. In 1901, the working force was 28.46 lakhs. By 1961 it almost doubled to 56.30 lakhs. But the total population had doubled itself much earlier. The percentage of workers in the population as shown by the census reports is given in the Table 3.1 below. Over the past six decades the worker participation rate declined considerably. In 1901, 44.50 per cent of the population were returned as workers. By 1961, the figure declined to 33.31 per cent. This decline in the work-force clearly proves that unemployment has been increasing over the decades.

TABLE 3.1

PERCENTAGE OF WORKERS TO TOTAL POPULATION
1901-1961

Year	*Percentage of workers*
1901	44.50
1911	41.33
1921	37.93
1931	42.88
1951	32.27
1961	33.31

The problem of unemployment, especially educated unemployment was keenly felt throughout India soon after the First World War. In the second half of the decade ended 1930 an Unemployment Enquiry Committee was set up in the erstwhile Travancore State. The enquiry was restricted to unemployment among the educated classes. The Committee investigated about the unemployment of person who had passed atleast the vernacular school leaving certificate examination and estimated that from 1922-26 the average annual output of educated persons in the State was around 3500 and assuming that a person was appointed against every new vacancy, the average number of persons who could normally be absorbed an year was only about 1360. Thus the residual educated unemployed every year was estimated at 2140. If this

was the case the ratio of the number of educated employment seekers to the number of jobs was approximately 3 to 1 and as the Committee concluded in its report, the problems of educated unemployment was "not only very acute but it was far more acute than in the provinces of British India in which the problem has been investigated". Though more emphasis was bestowed on the unemployment of the educated, unemployment among the uneducated also had become a serious problem in the former Travancore area by the beginning of the nineteen thirtees. The 1931 census report as well as the report of the Economic Depression Enquiry Committee of 1931 elucidated this point.

According to the 1931 census report the unemployed formed 7 per cent of the male population and 13 per cent of the female population. Of the total unemployed above 15 years of age, 1,52,000 were literate. The census Commissioner for Travancore in 1931 after comparing the figures with those of other parts of India established that unemployment in respect of both males and females appeared to be greater in Travancore than in other States and Provinces except Bengal. The total number of educated unemployed in the area was 1583 of which 1249 were unemployed for more than one year. Educated persons formed 0.3% of the total unemployed at the time.

The 1931 report of the Economic Depression Enquiry Committee of Travancore estimated that more than half the labour in tea and rubber plantations had been disbanded. These might have included between 30,000 and 40,000 persons of whom only about 2,200 could be reabsorbed in some of the works undertaken by the Government. The Committee opined that educated unemployment had grown more acute since 1928 and went on to say "the simultaneous existence, side by side, of extensive unemployment both of the educated classes and the unskilled labourers should be regarded as creating a situation of extraordinary complexity".

The unemployment situation was still grave during the 4th decade of the century, as is indicated by the Census Report of 1941. Taking into account only the absolute unemployment i.e., the total absence of a means of livelihood, whether sufficient or insufficient, it was roughly estimated that between the ages 16-40 the unemployed formed 6% of the population. It is worthwhile to note that this position has been presented after the mass

recruitments to armed forces for the Second World War and other ameliorative measures such as the starting of new and expansion of existing industries as part of war efforts.

In 1956, before the formation of Kerala, an unemployment survey was conducted in Travancore-Cochin State. After the formation of Kerala, in March 1957, a similar survey pertaining to Malabar and Kasargode areas was also conducted. It was found that there were 5.3 lakhs of persons or 11.1 per cent of the labour force who were unemployeed in Kerala then. The labour force contained 47.25 lakhs persons. 15.20 lakhs persons were found to be underemployed.

The percentage of employed and unemployed persons are also available from the 14th round of the National Sample Survey which related to the period 1958-59. According to that, 3.38 per cent of the population or nearly 10 per cent of the labour force were unemployed. Assuming that these will hold good for 1961, it is estimated that 56.65 lakhs persons were covered by the labour force in 1961 which comprised of 50.93 lakhs employed persons and 5.72 lakhs unemployed persons. This included 17.44 lakhs women. 15.11 lakhs employed and 2.33 lakhs unemployed. Persons who worked for atleast one hour during the reference week were considered as employed in this survey.

In addition to the data on unemployed, the 14th round of the National Sample Survey also threw light on the aspect of under-employment. 19.05 per cent of the rural employed and 12.11 per cent of the urban employed, were shown to have worked 28 hours or less during the reference week and to have reported to be available for additional work. Their number is estimated to be a little over 9 lakhs in 1961.

The census of 1961 gave a figure of 1.73 lakhs as unemployed. The employed and unemployed together worked out to 58.03 lakhs. It may be specially mentioned that according to the 1961 census concept a person who worked on any day in the preceding 15 days of the day of enumeration was classified as a worker.

A sample survey conducted by the Government of Kerala in 1962 on employment and unemployment showed that 7.60 lakhs of persons were unemployed in 1961. This worked out to be 4.2 per cent of the population or 13.8 per cent of the labour force. According to this survey the labour force was 54.76 lakhs. The number of partially employed persons was found to be 18,89 lakhs.

CHAPTER II

DEVELOPMENT DURING THE THREE FIVE YEAR PLANS

Income, consumption and employment constitute the most important indices of economic prosperity. The performance of Kerala's economy during the first three plan periods can be gauged by an examination of the behaviour of these indicators during this period.

The income data reveal that there has not been any appreciable increase in the per capita income. While the all India income rose by 61.72% during the period 1950-51 to 1965-66, Kerala's regional income rose by 61.75%. However, the State's performance is not quite satisfactory, when the growth in per capita income is taken into consideration. India's per capita income rose by 18.18% during this period while that of Kerala increased only to the extent of 16.13% (Vide Table 1.1). Instead of a narrowing of the gap in the levels of per capita income of all India and Kerala, there has actually been a widening of income disparities.

TABLE 1.1

State Income of Kerala and National Income (at 60-61 prices)

	India		*Kerala*	
	1950-51	1965-66	1950-51	1965-66
1. National/State Income (Rs. crores)	9850.00	15930.00	334.19	540.54
2. Percentage	100.00	161.72	100.00	161.75
3. Per capita Income (Rs.)	275.00	325.00	248.00	288.95
4. Percentage	100.00	118.18	100.00	116.51

Note:—The State Income and Per capita income for 1950-51 are computed for Kerala by the Bureau of Economics and Statistics.

The available data are not quite adequate to gauge the changes in consumption standards. The per capita consumption of cereals per month (30 days) as computed from the 17th round of the National Sample Survey (1961-62) was 8.2 seers in the rural and 9.8 seers in the urban areas. Adult equivalent of the population worked out from Census tables comes to 81.5% for the rural population and 82.6% for the urban population (1961). The level of cereal consumption per adult thus works out to 10.1 seers in the rural areas and 11.9 seers in the urban areas. This is less than the

standard of consumption of cereals recommended by the Nutrition Advisory Committee, viz. 14 oz. per adult per day which is equivalent to 12.8 seers for 30 days.

The results of the 16th round of the National Sample Survey (1960-61) show that the monthly per capita total consumer expenditure in both rural and urban areas of Kerala was one of the lowest in the country. The estimate of monthly per capita total consumer expenditure was Rs. 18.12 in the rural areas of Kerala against the corresponding all India estimate of Rs. 21.44. The figure for the urban areas of Kerala is Rs. 23.65 against the all India (Urban) estimate of Rs. 29.62. The value of the per capita consumption of cereals in the rural areas of the country was found to be the lowest in Kerala. In the matter of per capita consumption of milk and milk products, Kerala lagged far behind the rest of India—Re. 0.72 and Re. 0.99 in the rural and urban areas as against the all India figures of Rs. 1.61 and Rs. 1.80 respectively. The expenditure on clothing per person in the State for a month of 30 days was Re. 0.90 in the rural areas and Re. 0.77 in the urban parts, whereas the all India estimates were Rs. 1.81 and Rs. 1.80 respectively. All these figures indicate that the level of living in Kerala is lower than in most other States of India.

Rising prices especially since 1962-63 have forced the consumer to restrict consumption. Therefore it is likely that consumption levels in Kerala have not improved compared to the 1960-61 levels.

The third indicator, viz. employment, also shows a declining trend during the three plan periods. The results of the sample surveys on employment conducted since the formation of Kerala State are furnished in Table 1.2. Figures on partial employment are not available for the periods before 1957; hence comparisons of the periods prior to 1957 are not made.

TABLE 1.2

Sl. No.	*Item*	*Number of persons (lakhs)*		
		1957	1962	1965
1.	Total employed	44.72	47.16	54.68
2.	Unemployed	6.56	7.60	5.47
3.	Labour force (1+2)	51.28	54.76	60.15
4.	Change in labour force		(+)3.58	(+)5.39
5.	Partially employed including in item 1	15.20	18.89	17.12
6.	Full employment equivalent of partial employment given in item 5	9.27	12.30	7.50
7.	Real full Employment(1—5+6)	38.79	40.57	45.06
8.	Change in full employment equivalent		(+)1.78	(+)4.49

Though the employment figures showed an increase during the last decade, it can be seen that reckoned in terms of full-time employment only 1.78 lakhs of jobs were created in 1957—62 against an increase of 3.58 lakhs in the labour force. The corresponding figures for the period 1962—65 are 4.49 lakhs and 5.39 lakhs respectively. Thus it is seen that the new jobs (converted into equivalent of full-time jobs) created both during the second and the third plan periods have been less than the corresponding increase in the labour force. This would mean that the employment situation has been gradually worsening.

The major indicators of development point to the fact that planned development during the last fifteen years has not been adequate to lead to a rise in the standard of living of the people or an increase in employment opportunities.

CHAPTER III

THE STATE ECONOMY IN 1965-66

The 1961 Census placed the State's population at about 169 lakhs. Nearly 4% of the all India population is accounted for by Kerala while the area of the State is only 1.3% of the Indian Union. The population in 1966 is estimated at 191 lakhs. The alarming rise in the State's population demands immediate attention.

A third of the total population in the State is engaged in gainful activities. This is considerably less than the proportion for the country as a whole. About 47% of the workers are engaged in agriculture and allied occupations as against a little over 72% in India. This low percentage of agricultural workers is not indicative of a high level of industrial development in the State. While the secondary sector as a whole employs about 19.3% of the total working force. Organised industries account for only 3.13%. The limited scope for employment in the organised industry and in the agricultural sector has forced the people to engage themselves freely in various activities in the tertiary sector and in traditional and low productivity enterprises.

The per capita cultivated land in the State is only 0.11 hectare. Paddy is grown in an area of 8.02 lakh hectares. The production of rice in 1965-66 was 9.97 lakhs tons as against 11.21 lakh tons in 1964-65. The total requirement of cereals worked out at the

rate of 12 oz. per capita per day for 1966 would be 23.70 lakh tonnes. About 60% of the land under paddy are double cropped. Double cropping of the remaining areas and triple cropping are difficult owing to the limitations in the soil conditions. Increased production is to be aimed at mainly through improved cultivation practices. The small size of holdings in the State restricts the possibility of mechanised farming practices.

The estimated per capita availability of milk in Kerala is only 1.83 ounces per day as against 4.8 ounces in India.

The net revenue from Kerala's forests in 1965-66 was estimated to be Rs. 5.70 crores. Revenue per hectare of forests is about Rs. 54 as against Rs. only for India as a whole. Kerala has excellant fishing grounds but the potential in the sector has not yet been fully exploited. Foreign exports of fish and fish products from the State for the year 1965-66 was Rs. 6.6 crores.

The growth of the industries sector in Kerala has been rather tardy. The traditional industries such as coir and handloom are facing difficulties in the foreign markets. The cashew industry depends for about 70% of its raw material requirements on imports from Africa. In 1964-65 Kerala imported 1.61 lakh tonnes of raw cashewnuts valued at Rs. 14.48 crores. The total factory employment on 31-12-1965 was about 1.95 lakhs. Out of this, coir, cashew and tiles accounted for more than 1 lakh workers. The average daily earnings of factory workers is the lowest in Kerala compared to the other States in India. The wage level is only about half of that in Maharashtra and Gujarat. The installed capacity for power generation has increased during the past few years of planned development. The installed generating capacity of the State system was 3,60,500 K.W. on 31-12-1966. If power development is viewed from the national angle, the cheap generating capacity of Kerala could be fully utilised and power could even be supplied to the neighbouring southern States. Installation of a thermal plant is of immediate necessity for Kerala, for total reliance on hydro-electric power will be asking too much of the monsoons.

Kerala is foremost among the Indian States in the matter of literacy. According to the census of 1961, 46.8% of the population was returned as literate. The per capita Government expenditure on education in Kerala (Rs. 15.19 in 1965-66) is the highest among the States in India. The literacy rate has gone upto 50.9% in 1966. The number of pupils attending schools for general education was 41.68 lakhs in 1965-66. The per capita expenditure on public

health is also the highest in Kerala (Rs. 4.49 in 1965-66) compared to the other States except Jammu and Kashmir. The number of hospital beds per 1000 persons in Kerala is about 0.93, the highest in the country and is very near the recommended standard of one bed for every thousand of the population.

The State income in 1965-66 was Rs. 540.54 crores and per capita income Rs. 288. In 1966 agricultural production presented a static picture whereas the industrial sector continued to maintain its slow rate of growth. An unhealthy feature of the State's industrial growth is that the percentage share of the industrial sector in the total State income registered a fall from 16.17% in 1950-51 to 14.47% in 1965-66. The percentage of industrial employment also showed a downward trend (from 20.48 in 1957 to 18.38 in 1961). The market for Kerala's export products had been generally good. The consumer had to face yet another year of rising prices. There had been a substantial rise in the prices of essential articles. The employment situation in 1966 was not bright as indicated by the employment exchange placings. On the food front, the supply position was seriously affected by the fall in internal production in 1965-66. The foodgrains ration could however be maintained with difficulty, thanks to increased overseas imports. Considerable amount of infrastructure has been created in the past.

CHAPTER IV

PATTERN OF EMPLOYMENT IN KERALA AT THE BEGINNING OF THE THIRD PLAN

The efforts to reduce unemployment in Kerala made in the First and in the Second plans did not meet with significant success. The working force in the State increased by 12.5 lakhs between 1951 and 1961. On the basis of outlays provided in the First and Second Plans, it is estimated that only 6.47 lakhs of jobs were created during the period. The results of the sample surveys of 1962 and 1965 show that during this period even though the number of the unemployed persons has decreased the number of the underemployed has increased and the average duration of their work has decreased.

In 1961 the worker participation rate in the State was 33% as against 43% in India. The participation rates in Andhra, Madras and Mysore were 52%, 46% and 45% respectively. The dependency rate in Kerala was higher than in India as a whole

and in the neighbouring States. In full-time equivalent of the partial employment is worked out, the dependency would be still higher. This high dependency is mainly due to the lower work participation rate of women (about 20% in Kerala as against 28% in all India) and the high sex ratio.

A sector-wise analysis of the employed persons in the State in 1961 shows that about 34 per cent of them were engaged in the tertiary sector, twice as large as the corresponding ratio for the whole of India (about 16%). But this difference is mainly contributed by the category "other services" in which all general workers whose activities are unspecified or not adequately described and who would have been working under any of the three sectors are included. Such workers formed about 14.0 per cent of the total number of workers. About 47% of the working force were employed in the primary sector and 19% in the secondary sector.

TABLE 4.1

Industry wise distribution of workers in Kerala State, 1961

Industrial category	*Persons (lakhs)*	*Percentage Distribution*	
		Kerala	*India*
1. Cultivator	11.78	20.92	52.82
2. Agricultural Labourer	9.78	17.38	16.71
3. Mining, Quarrying, Livestock, Forestry, Fishing, Plantations, Orchards and allied activities.	4.87	8.66	2.75
4. Household Indutsry	4.88	8.68	6.39
5. Manufacturing other than household industry	5.29	9.40	4.22
6. Construction	0.70	1.26	1.09
7. Trade and Commerce	3.21	5.72	4.05
8. Transport, storage and communication	1.52	2.71	1.39
9. Other services	14.23	25.27	20.38
Total	56.30	100.00	100.00

There were about 21.56 lakhs of agricultural workers comprising 11.78 lakh cultivators and 9.78 lakh agricultural labourers. The slight increase in the number of agricultural workers (21.27 lakhs in 1951) was caused by a 16.4% rise in the number of agricultural labourers. The number of cultivators and agricultural workers in the whole of India increased by 43% and 14% respectively.

In the industries sector about 10.17 lakh persons were employed in the State. The increase over 1951-1961 was 23.7%. But the rate of increase in the industrial employment in the State was less than half of the rate of increase (59.2%) in the whole of India.

Of the 10.17 lakhs of persons engaged in the industrial sector 4.88 lakhs were in household industry, 3.58 lakhs in small industries and about 1.71 lakhs in the registered factories. Thus about 84 per cent of the workers in the industrial sector were engaged in household and unorganised industries at the beginning of the Third Plan.

Among the districts Palghat had the highest worker participation rate (38.8 per cent) which was followed by Cannanore (35.4%). Kozhikode had the lowest worker rate, but among males alone the participation was lowest in Trichur.

Activity status analysis (as on 1961) showed that the category of "single workers" formed the largest portion of the work force-Urban areas taken alone showed that "employees" formed the largest group. Table 4.2 gives the distribution of workers by activity status.

TABLE 4.2

Percentage distribution of working population of Kerala by work status—1961.

Work status	*Males*	*Females*	*Total*	*Rural*	*Urban*
Employer	3.19	0.52	2.61	2.17	4.21
Employee	41.10	52.59	43.59	40.25	55.84
Single worker	52.71	44.49	50.93	54.32	38.51
Family worker	3.00	2.40	2.87	3.26	1.44
Total	100.00	100.00	100.00	100.00	100.00

The 14th round of the National Sample Survey provided data on underemployment. About 19 per cent of the rural employed and 12 per cent of the urban-employed were estimated to have worked 28 hours or less and were available for further employment. By assuming the same ratios for 1961, the total number of persons in this category worked out to a little more than 9 lakhs. But according to the 1962 sample survey on unemployment, there were 13.89 lakhs of partially employed persons at the beginning of the Third Five Year Plan.

There were 1.73 lakhs of employment seekers in the State according to the 1961 census. About 1.38 lakh persons were seeking employment for the first time and the remaining 0.34 lakh persons were employed before but out of employment and seeking work at the time of the survey. A person who has worked even nominally on any day of the preceding 15 days of the day of enumeration was taken to be employed in the Census. Hence the Census is likely to be biased in favour of employment. The

unemployed constituted only about 1 per cent of the population in 1961. Employment seeking was most intense in Alleppey District and the least intense in Palghat District. Nearly 80% of the employment seekers were males.

The sample survey of 1962 gave an estimate of 47.16 lakhs as the number of workers. For the purpose of this survey those who worked for atleast one hour during the reference week were considered as employed. The labour force formed 32.4 per cent of the population (54.99 lakhs persons). The number of unemployed persons was estimated at 7.60 lakhs. The 14th round of the National Sample Survey which related to the period 1958-59 also gave the percentage of employed and unemployed. If these percentages are assumed to hold good for 1961 also the number of employed and unemployed persons worked out to 50.93 lakhs and 5.72 lakhs respectively. The labour force worked out to 56.65 lakhs and this is more or less in agreement with the 1962 sample survey estimates.

At the end of the year 1960-61, there were 141,822 persons remaining on the registers of the Employment Exchanges in the State. As at the end of the year 1960 there were 69,230 matriculates, 1,568 Intermediate passed applicants and 3,542 graduates including 30 engineers and 23 doctors who were registered at the Exchanges.

Occupational analysis of the registrants as on 31-3-1961 showed that 60.5 per cent of them were new entrants to the labour market without any technical or vocational qualifications. 15.5% were craftsmen and production process workers, 7.6 per cent were clerical and related workers, 7.0 percent were professional, technical and related workers, 6.1% were service, sport and recreation workers and the remaining 3.0 per cent were formed of other categories.

According to the present survey the labour force is 60.15 lakhs or 32.0 per cent of the population. The number of persons who are totally unemployed is 5.47 lakhs which form 9.1% of the labour force. The number of partially employed people who reported themselves to be available for additional work is 17.12 lakhs which when converted to equivalent full time employment comes to 7.50 lakhs. Comparing the results of this survey with those of the 1962 survey it would appear that the number of workers during the period increased by 7.52 lakhs against an increase of 6.39 lakhs in the labour force. The additional employment opportunities of 7.52 lakhs would however be the equivalent of only 4.49 lakhs of full-time jobs. Hence in terms of man-hours of work, the employment

situation in the State will be found to have further deteriorated from what it was in 1962. However, if we take the Five Year period 1961-66 we can roughly place the number of additional job opportunities during that period to be around 6.5 lakhs.

Thus the results of the three comparable sample survey in 1956, 1962 and 1965 would indicate that there has been a progressive decline in the proportion of the labour force participation as well as in the employment situation in the State during the Second and Third Five Year Plan periods.

PART II

THE KERALA EMPLOYMENT SURVEY, 1965-66

37/3797/MG

CHAPTER V

APPROACH AND METHODOLOGY

(a) *Concepts and definitions:*

Important concepts and definitions employed in the Sample Survey are the following:—

Household: A household has been defined as consisting of a person or a group of person who usually reside under the same roof and ordinarily take food from the same kitchen. Guests were excluded and temporary absentees from the household were included as members of the household.

Employed: (1) A person who was directly or indirectly occupied in 'gainful work' on atleast one day during the reference week, however nominal the hours of work put in might be, was treated as employed.

(2) A person was also treated as employed if he had a job or enterprise but did not do any work during the reference week due to personal reasons such as illness, injury, paid leave, vacation etc.

Unemployed: A person in the age group of 15 to 59, without any gainful employment during the reference week and either seeking or available for work was treated as unemployed. An unemployed person was considered to be seeking work if he was currently registered with employment exchanges or had applied for, or contacted any person for any job during the preceding 60 days from the date of enquiry.

An unemployed person was considered to be not seeking but available for work if he was not seeking work as explained above and was available and willing to undertake gainful work under the normal terms and conditions which usually accompanied such work.

Labour force: The employed and unemployed together constitute the labour force. The rest are persons not in the labour force.

(b) *The Sample Design:*

The survey was designed to provide estimates of employment and unemployment at the district level. On the basis of certain approximate calculations based on the estimates and their error obtained in past surveys it was found that a sample of about 2000 households in each district would be necessary for the purpose.

Since it was not possible for the State Bureau of Economics & Statistics to tabulate the data through mechanical tabulation, it was decided to make the sample design self-weighting, so that the workload of computation will be reduced considerably.

Stratification:

Each district was divided into rural and urban areas. The urban areas consisted of all the Municipalities and Corporations. The rest of the area consisted of Panchayats and this formed the rural sector. In the rural sector, Panchayats were arranged according to natural divisions all Panchayats in the lowland region coming first, followed by midland and highland in that order.

Stages of sampling:

Rural Areas: In the rural areas a three-stage sampling design was adopted. Panchayats formed the first stage sampling units. From each Panchayat, on an average, two wards were selected and from each ward 25 households on an average were selected, using the number of households as obtained from the voter's list.

The number of Panchayats to be selected from the rural areas of a district was determined as follows: The 2000 households required from a district were allocated to the rural and urban areas in proportion to the respective populations rounding off the number to the nearest multiple of 50. The number thus allotted to the rural areas was divided by 50 to get the number of Panchayats to be selected from the district. The selection of Panchayats was done by the method of circular systematic sampling. The number of sample households required from the Panchayat was determined in such a way that it was always a constant factor of the estimated total number of households in the Panchayat. The proportion of wards to be sampled and the proportion of households to be selected were obtained in such a way that their product was equal to the above fraction and that on an average there would be about 25 households from a ward.

The required number of wards from a Panchayat was selected by simple random sampling. The specified proportion of households from each ward was selected as explained in paras coming under "selection of sample households".

The sample design was thus self-weighing for the rural areas in each district.

Urban areas: In the urban areas a two-stage sampling design was adopted. Municipal Corporation wards formed the first-stage units and households formed the second-stage units. The number of households to be sampled from each Municipality in multiples

of 25 was calculated and dividing this number by 25, the number of wards required was calculated. The required number of sample wards was then selected by simple random sampling. From every selected ward a constant proportion of households was selected by the method described in paras coming under "selection of sample households". The sample design was thus self-weighting for the urban areas of each district also. On an average, it was expected that combining the rural and urban areas, there would be about 2000 sample households from every district.

Selection of Sample Households:

Households were selected for the survey from the Voters' list collected from the Municipal or Panchayat Office concerned. Continuous serial numbers were allotted to the households in the Voters' list of each ward selected. If the percentage of households to be selected from the ward be 'P' and the total number of households in the ward 'N', the number of households to be selected was $\frac{N \times P}{100}$ rounded off to the nearest integar say 'n'.

The sampling interval was taken as the quotient of $\frac{N}{n}$ and using the sampling interval as determined above the sample households were selected by circular systematic sampling.

Coverage & Sample size:

The survey covered about 0.6 per cent of the total number of households in the State distributed in all the nine districts of the State. On an average it was proposed to survey about 2000 households from each district. The actual number however varied and ultimately there were 17239 households in the sample and all the sampled households were surveyed. The table 5.1 shows the number of urban and rural wards, the number of households and the number of persons surveyed in each of the nine districts.

Schedule:

The draft schedule prepared by the Bureau of Economics & Statistics was discussed and finalised in a meeting of the representatives of the Kerala State Government, the Central Statistical Organisation, the Directorate of Manpower, the National Sample Survey, the Registrar General's Office, the Labour Bureau and the Directorate General of Employment and Training. Copies of the Schedule and 'instruction to field workers' are given in Appendix I.

Supervision:

The headquarters of the three Regional Officers were located at the central districts of their jurisdiction namely Quilon, Ernakulam and Kozhikode. The jurisdiction of the Regional Supervisor Quilon, was Trivandrum, Quilon and Alleppey districts that of the Regional Supervisor, Ernakulam, was Kottayam, Ernakulam and Trichur districts and that of the Regional Supervisor, Kozhikode, was Palghat, Kozhikode, and Cannanore district. They were vested with the responsibility of supervision of work in their jurisdiction and they inspected the field work of all investigators under them. The Regional Supervisors had to undertake extensive tours to inspect the work of the investigators assigned to them.

One Research Assistant in every district was exclusively entrusted with the inspection of field work of this survey. Besides these Research Assistants, there were on an average four Statistical Inspectors in a district who were directed to conduct inspection of this survey in the course of their normal inspection visits. The inspection programme was such that atleast three households from every selected Panchayats were inspected. On the whole maximum effort was made by the supervising officers to improve the quality of data. Inspection of field work was aslo done by the Deputy Director in all the nine districts and by the Additional Director in some selected areas.

Scrutiny:

A preliminary scrutiny of the schedules was done by the Regional Supervisors and the object of the preliminary scrutiny was to rectify mistakes of a routine nature which could be corrected at that level. Scrutiny of the schedules aimed at making qualitative checks was conducted by the Deputy Director and the Research Officers at the Headquarters. The scrutiny of all the filled in schedules was completed by 15th of January, 1966.

Tabulation:

The tabulation work of the survey was started on 20th December 1965 at the headquarters. 27 investigators of the Bureau of Economics & Statistics and 11 Junior Employment Officers of the Directorate of Employment and Training, attended to the tabulation work. The work was done under the guidance of the Deputy Director, assisted by the Research Officer. The preliminary tabulation work was completed on 28th February 1966.

TABLE 5.1

Table showing the coverage of the Survey

Districts	No. of wards surveyed			No. of households surveyed			No. of persons surveyed						Total persons surveyed		
							Urban			Rural					
	Urban	Rural	Total	Urban	Rural	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Trivandrum	13	71	84	370	1725	2095	1198	1203	2401	5029	5209	10238	6227	6412	12639
Quilon	4	85	89	108	1986	2094	356	356	712	5673	5732	11405	6029	6088	12117
Alleppey	11	72	83	278	1575	1853	906	919	1825	4577	4538	9055	5423	5457	10880
Kottayam	7	85	92	148	1924	2072	535	496	1031	5623	5528	11151	6158	6024	12182
Ernakulam	15	67	82	302	1548	1850	1086	1018	2104	4917	4889	9806	6003	5907	11910
Trichur	6	83	89	95	1816	1911	303	330	633	5412	5743	11155	5715	6073	11788
Palghat	5	74	79	98	1664	1762	325	299	624	4666	5292	9958	4991	5591	10582
Kozhikode	7	76	83	160	1678	1838	584	601	1185	4875	4904	9779	5459	5505	10964
Cannanore	4	83	87	84	1680	1764	339	360	699	5555	5450	11005	5894	5810	11704
STATE:	72	696	768	1643	15596	17239	5632	5582	11214	46267	47285	93552	51899	52867	104766

CHAPTER VI

POPULATION, LABOUR FORCE AND MIGRATION

The population of Kerala according to the survey is 187.81 lakhs. The survey was conducted during October-November 1965 and the results may, therefore, be assumed to indicate the position on first November 1965. Compared with the population of 1961 census, viz., 169 lakhs, there is an increase of 11.1 per cent over a period of four years and seven months. This works out to an average growth rate of 2.4 per cent per annum. The survey results also indicate that 95.05 lakhs of the population are males and the remaining 94.76 lakhs females. This gives a sex ratio of 1018 females per 1000 males, as against a ratio 1022 females per 1000 males in the 1961 census. A probable reason for the high sex ratio is the relatively large out migration of employment seekers from Kerala. Table 6.1 gives the variation in the sex ratio since 1901.

TABLE 6.1

Variation in the Sex ratio 1901-1965

Year	*No. of women per 1000 men*
1901	1002
1911	1005
1921	1008
1931	1019
1941	1024
1951	1028
1961	1022
1965	1018

The population originating in Kerala can be obtained by sub-tracting from the total population, the number of inmigrants and adding the number of outmigrants. The data obtained from 1961 census are presented in Table 6.2.

TABLE 6.2

	Item	*Male*	*Female*	*Total*
1.	Population enumerated (lakhs)	83.63	85.42	169.05
2.	Inmigrants	1.23	1.11	2.34
3.	Outmigrants	4.02	2.16	6.18

The above table indicates that in the absence of migration, males and females would have been equal in number. Thus changes in the sex ratio in Kerala may be attributed to migratory trends. The observed decline in the sex ratio can result only from an increase in the proportion of women among the total net outmigrants. Table 6.3 gives the rates of net outmigration during the intercensal period for Travancore-Cochin and Kerala.

TABLE 6.3

Rate of net outmigration per 100 average population

Region & Period	*Rates*		*Sex ratio among net outmigrants*
	Male	*Female*	
Travancore-Cochin:			
1931—41	0.24	0.09	..
1941—51	1.43	0.77	500
Kerala:			
1951—61	2.65	1.11	429

It is seen that while the rates of net outmigration during the intercensal periods have increased, the sex ratio (defined as females per 1000 males) has decreased among the outmigrants. Proportionately more and more women are thus left behind when the men move out of the State. This phenomenon has probably continued after 1961 also.

Migration:

Attempt is made in the present survey to study lifetime outmigration by ascertaining from the informant the number of persons from that household who had migrated to other parts of the country. Details by district of origin are given in Table 6.4.

TABLE 6.4

District	*Number (in lakhs)*		
	Total migrated	*Rate per 100 population*	*Migrated for work*
Trivandrum	0.36	1.82	0.33
Quilon	0.49	2.16	0.42
Alleppey	0.50	2.49	0.46
Kottayam	0.36	1.87	0.22
Ernakulam	0.32	1.52	0.24
Trichur	0.91	5.05	0.74
Palghat	1.10	5.77	1.87
Kozhikode	0.62	2.21	0.51
Cannanore	0.62	3.15	0.53
Total	5.28	2.84	4.32

About 5.28 lakh persons have left Kerala and are now living elsewhere in the country or abroad. Of these 4.32 lakhs are reported to have migrated for taking up work. The dependants of most of these earners are perhaps still living in Kerala. This may explain the preponderance of women in Kerala. District-wise figures show that the largest number of outmigrants are from Palghat District, though Palghat has only eighth rank among the nine districts so far as total population is concerned. The total estimated population of Palghat District was only 19.05 lakhs and there are 1.10 lakhs of outmigrants. In other words about 6 per cent of the population belonging to Palghat district have migrated to areas outside the State. A fairly high rate of outmigration has taken place from Trichur district also. The lowest rates of migration were observed from Ernakulam, Trivandrum and Kottayam districts. Rates of life-time outmigration per hundred of the present population are given in Table 6.4.

Inmigration:

Out of the population of Kerala, 1.49 lakhs belonged to other States. The majority of them (1.32 lakhs) belonged to Madras State. Nearly 75 per cent of the inmigrants from Madras are found in Kottayam district. The fact that the majority of plantation labourers in Kottayam district are Tamil speaking people perhaps accounts for this. The remaining migrants from Madras are distributed in all the other districts, though the largest groups are found in Trivandrum, Kozhikode and Quilon districts. There are about 11.8 thousand persons who have come from Mysore State. They are found mostly in the Cannanore and Kozhikode districts. The extent of migration from other States is almost insignificant. Details are given in Table 6.5.

TABLE 6.5

(Figures in thousands)

District	*State of Origin*			
	Madras	*Mysore*	*Other State*	*Total*
(1)	(2)	(3)	(4)	(5)
Trivandrum	9.6	..	..	9.6
Quilon	6.0	..	0.2	6.2
Alleppey	1.0	..	..	1.0
Kottayam	97.5	0.2	0.2	97.9
Ernakulam	2.9	0.6	0.8	4.3
Trichur	1.4	..	1.5	2.9
Palghat	4.1	..	..	4.1
Kozhikode	9.3	4.7	1.8	15.8
Cannanore	0.5	6.3	..	6.8
Total	132.3	11.8	4.5	148.6

Inter-District Migration:

There has been a considerable degree of migration of people as between the districts in Kerala. The relevant details are given in Table 6.6. The largest volume of internal migration has been to Cannanore district. Nearly 1.14 lakhs of persons enumerated in Cannanore district belonged to other areas in Kerala. Next in order comes Kozhikode with 1.02 lakhs of inmigrants and Kottayam with 0.90 lakh. The migrant settlers in Cannanore are mostly from the Kottayam and Ernakulam Districts. In Kozhikode district the largest number has come from the adjoining Palghat district. But from Kottayam and Ernakulam districts also there are significant number of migrants to Kozhikode. A few years back extensive areas of land were available in Kozhikode and Cannanore districts at comparatively low prices. This position continues to some extent even today. Enterprising people from Kottayam and Ernakulam districts, with experience in raising plantations, migrated to these areas and settled there to exploit these virgin lands.

The migrant settlers in Kottayam district are mostly from the neighbouring districts of Alleppey, Quilon and Ernakulam. The position of Kottayam district is some what peculiar in the sense that while the largest number have moved out of this district, a very large number are also found to have come in. This may mean that migration into Kottayam district took place prior to the large scale migration out of it. A few years back forests and other vacant lands were available in plenty in Kottayam district particularly in the high ranges. This attracted the population from the neighbouring districts, particularly Alleppey district, where the density of population was high and the per capita land low.

It is also interesting to note that Palghat, the rice granary of Kerala, did not attract many people. It may be that, as lands in Palghat district are very fertile and being put to the maximum use the scope for the influx of outsiders is limited.

Viewed from another angle, the largest component of internal migration originated from Kottayam district followed by Ernakulam and Alleppey in the order. Alleppey district is characterised by a very high density of population and the absence of land and other opportunities for employment, motivated outmigration. But in Kottayam district these problems did not prevail. The migrants from Kottayam district were enterprising enough to move out and settle in the sparsely populated regions of Kozhikode and Cannanore districts.

TABLE 6.6

Particulars of Internal Migration (Number of persons)

District of destination	*District of origin*									
	Trivandrum	*Quilon*	*Alleppey*	*Kottayam*	*Ernakulam*	*Trichur*	*Palghat*	*Kozhikode*	*Cannanore*	*Total*
Trivandrum	..	10640	5260	1040	700	300	..	160	..	18100
Quilon	4210	..	19870	6230	..	950	..	..	..	31260
Alleppey	1790	10060	..	5990	5350	510	160	..	190	24050
Kottayam	3360	13540	33820	..	31220	3000	3000	1120	1420	90480
Ernakulam	2140	1160	4940	6640	..	4800	2640	320	1600	24240
Trichur	300	340	2260	6600	7320	..	1690	1050	150	19710
Palghat	900	180	360	180	1440	360	..	3960	360	7740
Kozhikode	260	3520	6980	12700	25320	9000	34200	..	10080	102060
Cannanore	340	1360	..	90780	17680	1190	340	2720	..	114419
TOTAL	13300	40800	73490	130160	89030	20110	42030	9330	13800	432050

Age-distribution:

The age distribution of the population is characterised by a high proportion of population in the lower age groups. This is the out-come of the high birth rates which was experienced in the State during the last few decades and the substantial reduction in infantile mortality. The economic effect is increase in the dependency load on earners, increased expenditures on consumption and low rate of savings.

The survey results indicate that 40.27 per cent of the population was in the age group 0-14 and 6.40% in the age group 60 and above (vide Table 6.7).

TABLE 6.7

Age distribution of the population

Age Group (years)	*Male*	*Female*	*Persons*
0—14	41.28	39.27	40.27
15—19	10.82	11.52	11.18
20—24	7.57	8.38	7.98
25—29	6.54	7.24	6.89
30—34	5.93	6.32	6.13
35—39	5.98	6.37	6.18
40—59	15.53	14.45	14.99
60 and above	6.35	6.45	6.40
All Ages	100.00	100.00	100.00

General Education:

The level of literacy is very high in Kerala. It is found that 63.15 per cent of the population are literate. Even among females as much as 56.87 per cent are literate. The details regarding general education are provided in Table 6.8.

TABLE 6.8

Percentage distribution of persons by general education

	Educational Level	*Male*	*Female*	*Persons*
1.	Illiterate	30.45	43.13	36.85
2.	Literate below middle	51.60	46.70	49.12
3.	Middle below matric	11.78	7.21	9.47
4.	Matric	5.36	2.70	4.02
5.	Graduate	0.71	0.24	0.47
6.	Post-graduate	0.10	0.02	0.07
	Total	100.00	100.00	100.00

Nearly half the population (49.12%) are merely literate and have not passed the Middle School Examination. Matriculates form 4.02 per cent of the population. Among females also 2.70 per cent are matriculates. Graduates and post-graduates together form only 0.54 per cent of the population.

Nearly 55% of the male population and 39 per cent of the female population of Kerala were literate according to the 1961 census. The survey show that the literacy level has gone up considerably after 1961.

The levels of literacy in the rural and urban areas differ considerably. It is seen that 70.67% of the urban population are literate compared with only 62.35 per cent in the rural areas. The differences are more pronounced in the higher levels of education. The details are provided in Table 6.9.

Among the urban population matriculates form 6.94 per cent of the population, 8.63 per cent among males and 5.23 per cent among females. The proportions are much less in the rural areas where only 3.70 per cent of the population are matriculates. Graduates form 1.62 per cent of the urban population compared with only 0.35 per cent in the rural areas. As regards the proportion of post-graduates, the urban areas are far ahead. Only an insignificant fraction of the rural population are post-graduates.

TABLE 6.9

Percentage distribution of population by level of education Rural and urban areas

Level of education	*Urban*			*Rural*		
	Male	*Female*	*Persons*	*Male*	*Female*	*Persons*
1. Illiterate	22.73	35.98	29.33	31.28	43.88	37.65
2. Literate below middle	53.22	46.48	49.86	51.42	46.73	49.05
3. Middle below matric	12.79	11.05	11.92	11.67	6.80	9.21
4. Matric	8.63	5.23	6.94	5.01	2.43	3.70
5. Graduate	2.17	1.07	1.62	0.55	0.15	0.35
6. Post-graduate	0.46	0.19	0.33	0.07	0.01	0.04
Total	100.00	100.00	100.00	100.00	100.00	100.00

There are considerable differences between the districts in the matter of literacy. Alleppey district occupies the top-most position with 75.12 per cent of the population literate (78.85 per cent among males and 71.42 per cent among females). It is also seen that generally the districts of the erstwhile Travancore and Cochin States have a higher level of literacy than the districts of the Malabar region. With regard to higher education also Alleppey district leads the others. In this district 7.21 per cent of the population are matriculates and 1.37% are graduates and above.

As regards graduates and above the Trivandrum district occupies the second place. 0.99 per cent of the population in the district are graduates and above.

TABLE 6.10

Percentage distribution of population according to General Education District-wise

District	*Sex*	*Illiterate*	*Literate below middle*	*Middle below matric*	*Matric*	*Graduate*	*Post Graduate*	*Total*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trivandrum	M	31.42	50.26	10.95	5.91	1.20	0.26	100.00
	F	43.08	44.60	8.37	3.47	0.42	0.11	100.00
	T	37.34	47.37	9.64	4.66	0.80	0.19	100.00
Quilon	M	22.53	60.20	11.80	4.82	0.50	0.15	100.00
	F	31.09	56.00	9.23	3.48	0.20	..	100.00
	T	26.83	58.09	10.51	4.15	0.35	0.07	100.00
Alleppey	M	21.15	35.21	30.64	10.52	2.37	0.11	100.00
	F	28.58	57.42	9.81	3.92	0.24	0.03	100.00
	T	24.88	46.35	20.19	7.21	1.30	0.07	100.00
Kottayam	M	25.32	56.79	10.40	6.67	0.68	0.14	100.00
	F	34.79	51.80	8.98	4.00	0.42	0.01	100.00
	T	30.00	54.82	9.70	5.35	0.55	0.08	100.00
Ernakulam	M	25.74	58.62	9.71	5.15	0.70	0.08	100.00
	F	36.98	52.36	7.59	2.73	0.32	0.02	100.00
	T	31.32	55.51	8.66	3.95	0.51	0.05	100.00
Trichur	M	31.60	53.93	8.69	5.18	0.56	0.04	100.00
	F	41.64	47.15	7.53	3.43	0.23	0.02	100.00
	T	36.74	50.45	8.10	4.29	0.39	0.03	100.00
Palghat	M	41.84	46.12	8.17	3.69	0.16	0.02	100.00
	F	56.64	36.13	5.70	1.29	0.24	..	100.00
	T	49.66	40.84	6.87	2.42	0.20	0.01	100.00
Kozhikode	M	36.24	51.20	8.52	3.59	0.33	0.12	100.00
	F	56.04	38.24	4.37	1.19	0.14	0.02	100.00
	T	46.18	44.69	6.43	2.39	0.24	0.07	100.00
Cannanore	M	38.49	50.54	7.61	3.10	0.18	0.08	100.00
	F	55.96	38.60	4.15	1.27	0.02	..	100.00
	T	47.17	44.61	5.39	2.19	0.10	0.04	100.00

The labour force:

The labour force is the manpower available for productive work and is constituted of the employed and the unemployed. It is seen that the labour force of Kerala was 60.15 lakhs in number during the survey period or nearly 32% of the population. Table 6.11 gives the detailed classification of population by activity status.

TABLE 6.11

Classification of the population by activity status and sex

Activity Status	No. of persons (lakhs)			Percentage Distribution		
	Male	Female	Persons	Male	Female	Persons
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Employed	39.74	14.94	54.68	42.7	15.7	29.1
2. Unemployed	3.04	2.43	5.47	3.3	2.6	2.9
3. Labour forces	42.78	17.37	60.15	46.0	18.3	32.0
4. Students	24.96	21.31	46.27	6.8	22.5	24.6
5. House workers	0.43	30.86	31.29	0.5	32.6	16.7
6. Too young	18.40	18.05	36.45	19.8	19.0	19.4
7. Too old	3.10	4.45	7.55	3.3	4.7	4.0
8. Others not in labour force	3.39	2.71	6.10	3.6	2.9	3.3
9. Persons not in labour force	50.28	77.38	127.66	54.0	81.7	68.0
Total	93.06	94.75	187.81	100.00	100.0	100.0

Only 29.1 per cent of the population reported as employed. Compared with the results of the Census of India, 1961, this figure is very low. According to the Census 33.3 per cent of the population were workers. This difference may be attributed mainly to the differences between the concepts and definitions used in the census and the survey.

In the census, the classification of workers was done mainly on the basis of their usual or normal activity while in the survey there was strict adherence to a referenec period of one week. This procedure itself has a tendency to under estimate the number of workers. The survey figure gives only the number of persons who actually worked during the reference week or had a job but temporarily abstained due to reasons such as illness, injury, vacation, etc. A person is treated as worker in the census if he was employed during any of the 15 days preceding the day on which he is enumerated, and he was working but was absent from his work during the said 15 days or even more than this period due

to illness or other causes he is still treated as a worker. Also in the case of seasonal work like cultivation, livestock, dairying, household industry, etc., if a person had some regular work atleast for more than one hour a day throughout the greater part of the season he is treated as worker.

The overall labour force participation rate in Kerala is only 32.0 percent. The dependency load on a worker is thus very high. On an average one person works and earns to maintain himself and two others. The labour force participation rate in Kerala is much less than in India as a whole. In the absence of comparable data relating to 1965, the figures obtained from the Census of India 1961 are used here to examine the reasons for the low participation rates in Kerala. The relevant figures are given in Table 6.12.

TABLE 6.12

Classification of population by activity census 1961—percentage distribution

Sl. No.	Activity	Kerala			India		
		Male	Female	Persons	Male	Female	Persons
1.	Workers	47.2	19.7	33.3	56.8	27.8	42.8
2.	Full-time students	22.5	17.6	20.0	13.0	5.8	9.5
3.	Engaged in household duties	..	33.3	16.8	0.2	31.2	15.2
4.	Dependents, infants and disabled	27.5	28.4	28.0	28.7	34.6	31.5
5.	Others	2.8	1.0	1.9	1.3	0.6	1.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0

It is seen that 20.0 percent of the population of Kerala reported as students compared with only 9.5 percent in all India. The differences between all India and Kerala as regards the other categories not in the labour force are not very high. The percentage of workers in Kerala is only 33.3 as against 42.8 in the country as a whole. It may be seen that the bulk of the difference in the labour force participation rates between India and Kerala is accounted for by the higher proportion of students in Kerala.

In the matter of labour force participation the difference between the rural and urban areas is not very pronounced. 31.99 percent of the rural population is in the labour force as against

32.37 percent of the urban population. There are no significant rural-urban differences in the participation rates of males and females separately also. However, the percentage of employed is more in the rural areas and the percentage of unemployed more in the urban areas.

TABLE 6.13

Percentage of employed, unemployed and labour force—rural and urban areas

Activity status	*Sex*	*Rural*	*Urban*
Employed	Male	42.81	41.72
	Female	15.89	14.62
	Total	29.21	28.21
Un-employed	Male	3.11	4.74
	Female	2.46	3.56
	Total	2.78	4.16
Labour Force	Male	45.92	46.46
	Female	18.35	18.18
	Total	31.99	32.37

There are considerable differences between the districts in the matter of labour force participation rates. Table 6.14 gives the details. The labour force participation rate is the highest in Palghat district closely followed by Trichur. As regards employment also Palghat and Trichur districts occupy the top-position. Unemployment is highest in Trivandrum district followed by Trichur. Trichur District has thus the second place both in respect of employment and unemployment. It may also be seen that generally employment is higher and unemployment lower in the Malabar region. Relatively less educational facilities in the Malabar region, more cultivable land per capita and similar other causes may account for the higher participation rates in the Malabar region.

TABLE 6.14

Employed, Unemployed and Labour force—district-wise

District	*Employed*	*Unemployed*	*Labour force*
Trivandrum	27.03	4.67	31.70
Quilon	28.16	3.18	31.34
Alleppey	29.11	3.39	32.50
Kottayam	29.14	2.12	31.26
Ernakulam	27.41	2.50	29.91
Trichur	31.66	4.31	35.97
Palghat	33.58	2.52	36.10
Kozhikode	27.97	2.76	30.73
Cannanore	30.63	1.01	31.64

TABLE 6.15

Age specific labour force participation rates

(Percentages)

Age-Group (Years)	*Male*	*Female*	*Persons*
0—14	1.30	1.43	1.36
15—19	42.00	25.45	33.39
20—24	83.37	33.90	57.15
25—29	94.34	33.12	61.90
30—34	95.46	34.45	63.70
35—39	95.90	35.06	64.22
40—59	92.02	31.34	62.50
60 and above	43.01	10.21	26.34
All ages	45.97	18.33	32.03

In the lower age groups, the labour force participation rate is very low (vide Table 6.15) only 1.36 per cent of the population in the age-group 0-14 is in the labour force. While comparable figures for India are not available, census figures indicate that 8.04 per cent of the population in the age-group 0-14 were enumerated as workers. It may be noted that this difference is accounted for, as observed earlier, by the higher proportion of students in Kerala. In the other age groups also the participation rates in Kerala are lower.

CHAPTER VII

THE EMPLOYED, UNEMPLOYED AND UNDEREMPLOYED

It has been mentioned in Chapter 6 that 54.68 lakhs of persons are employed in the State—39.73 lakhs being males and 14.95 lakhs being females. The classification of the employed persons by industry or the branch of economic activity in which they are engaged is important because it throws light on the level of development of the economy. The relevant figures are given in Table (7.1).

TABLE 7.1

Percentage distribution of employed persons by industry group and sex

	Industry group	*Male*	*Female*	*Persons*
1.	Agriculture and allied activities	53.61	54.10	53.75
2.	Quarrying	1.12	0.48	0.95
3.	Manufacturing	12.31	21.78	14.90
4.	Construction	2.48	0.53	1.95
5.	Electricity, gas, water and sanitary services	0.29	..	0.22
6.	Trade and Commerce	10.64	2.41	8.39
7.	Transport	3.09	0.23	2.31
8.	Public Services	5.28	3.77	4.86
9.	Personal services	4.82	8.65	5.86
10.	All other services	5.04	5.71	5.22
11.	Activities not elsewhere classified	1.32	2.34	1.59
	Total	100.00	100.00	100.00

Nearly 54 percent of the workers are engaged in agriculture and allied activities which include animal husbandry forestry and fisheries. More or less equal proportions of the male and female employed are found in agriculture. In comparison with agriculture only 14.90 percent of the workers are engaged in manufacturing. In this sector it is seen that 12.31 percent of the male workers and 21.78 percent of the female workers are engaged. Concentration of women workers in industries like cashew and coir perhaps accounts for this.

The next important activity from the point of view of employment is trade and commerce which absorbs 8.39 percent of the employed. This means that nearly one out of every 12 workers is engaged in this sector. It may be mentioned that in India, according to the 1961 census only 4.1 percent of the workers were in trade and commerce, the corresponding figure for Kerala being 5.7 per cent. It appears that there is a bit of overcrowding in this sector.

Public services which include the State and Central Governments, quasi-Government Organisations and local bodies absorb 4.86 percent of the workers in Kerala. The corresponding figures among males and females are 5.28 percent and 3.77 percent respectively. This shows that Government service is a very important source of employment in Kerala. Similarly personal services like domestic services, and services of washermen and barbers provide employment for a substantial porportion of the workers. It is seen that 5.86 persent of the employed are engaged in these activities—the corresponding percentages among males and females separately being 4.82 and 8.65.

Another note or by feature is the high proportion (1.95 percent) of the workers engaged in construction activity. This is indicative of the brisk activity going on in the field of construction. It is known that of late there is a tremendous increase in the number of houses particularly in the urban centres.

Compared with India, tre peculiarities of the industry-wise distribution of workers in Kerala are:—

(i) A lower proportion of the workers is found in agriculture which is due to the low percapita availability of land and the predominance of cash crops, which require comparatively less labour.

(ii) Overcrowding in the services sector which indicates absence of opportunities in the other sectors.

There are considerable interdistrict variations in the industrial distribution of workers. As regards the agricultural sector, the highest proportions of workers are found in the Kottayam, Cannanore and Palghat districts. Agriculture here includes plantations, in addition to animal husbandry, forestry and fisheries. The high percentage of workers in agriculture in Kottayam district may be due to the fact that the plantations of Kerala are concentrated mostly in Kottayam district. The lowest percentage of agricultural workers is found in Trivandrum district. Alleppey and Ernakulam districts also have low percentages of workers in agriculture.

As regards manufacturing Alleppey and Quilon districts lead with 23.59 percent and 21.15 percent of the workers engaged in this sector. The remaining districts are far behind from the point of view of industrial employment. The important industries in the State so far as provision of employment is concerned are the cashew, coir, bricks and tiles. The cashew industry is almost the monopoly of Quilon district. Alleppey leads in Coir industry. These factors account for the high proportion of workers in manufacturing in Quilon and Alleppey districts.

The highest proportion of workers in construction is found in Ernakulam district. Trichur and Quilon follow in order. The location of a wide variety of large-scale industries in the Cochin, Ernakulam and Alwaye areas has helped largly in the overall development of this area. Besides construction of the industrial units, provision of housing and other facilities for the population attracted to these areas will involve building of houses, roads etc. This perhaps accounts for the highest proportion in Ernakulam district. Almost similar is the case of Quilon and Trichur districts.

TABLE 7.2

Percentage Distribution of Employed by Industrial Divisions & Districts

	Industrial Divisions	*Districts*								
		Trivandrum	*Quilon*	*Alleppey*	*Kottayam*	*Ernakulam*	*Trichur*	*Palghat*	*Kozhikode*	*Cannanore*
1.	Agriculture and allied activities	41.20	53.17	44.59	65.39	47.15	52.18	62.20	52.75	64.09
2.	Mining and quarrying	0.35	0.42	0.75	0.74	2.78	0.92	0.71	0.81	1.15
3.	Manufacturing	14.82	21.15	23.59	9.89	13.31	11.69	12.23	13.75	13.32
4.	Construction	1.86	2.09	1.52	1.51	3.57	2.77	1.18	1.64	1.57
5.	Electricity, gas, water and sanitary services	0.17	0.17	0.16	0.14	0.63	0.42	0.15	0.05	0.11
6.	Trade and Commerce	9.88	7.27	9.49	6.34	8.03	7.76	7.91	11.10	6.97
7.	Transport and Communications	2.42	2.43	1.96	1.43	3.86	2.35	1.57	3.00	1.56
8.	Public services	7.97	5.50	7.01	5.24	5.13	5.33	2.69	3.61	2.12
9.	Personal services	7.64	4.90	5.83	4.56	8.48	7.46	5.49	4.77	4.36
10.	Other services	18.29	2.37	1.88	4.63	6.47	3.03	4.90	7.45	3.18
11.	Activities not elsewhere classified	0.42	0.53	3.22	0.13	0.59	6.09	0.97	1.06	1.57
	TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Kozhikode district leads in the matter of trade and commerce. A little over 11 percent of the employed is in the trade and commerce sector. This is much higher than the State average. This means that one out of every nine employed in Kozhikode district is engaged in trade and commerce. This indicates a very heavy concentration of trade in the district. Calicut city, which is the biggest centre of trade in Kerala perhaps contributes to this. In Trivandrum and Alleppey districts also the trade and commerce sector is important from the point of view of providing employment.

From the percentage of workers engaged in transport and communications, Ernakulam district has the best developed transport system. Facilities for both passenger and goods traffic are also necessary to meet the transport needs of a fast growing industrial town. This explains the highest proportion (3.86 percent) of the workers in this sector in Ernakulam district. Kozhikode district comes next with 3.0 percent of the workers engaged in this sector. It may be noted that Trivandrum, Quilon and Trichur districts also have a well-developed transport system, if number of persons engaged is any indicator.

Trivandrum district being the capital naturally leads in the matter of public services. Nearly 8 per cent of the workers in this district are reported to be in Government or quasi-Government service. It may also be seen that generally the districts of the erstwhile Travancore-Cochin region lead in respect of the proportion of Government servants. The fact that there are proportionately more educational and public health institutions in this area perhaps accounts for this.

In contrast to industry which denotes the type of economic activity which is carried on in the enterprise in which the person concerned is employed, occupation specifies the nature of functions which the person engaged has to perform. Table (7.3) gives the percentage distribution of employed persons by broad groups of occupation.

TABLE 7.3

Percentage distribution of employed persons by occupation

Occupation groups	*Male*	*Female*	*Persons*
1. Professional, technical and related workers	3.61	4.12	3.75
2. Administrative, executive and managerial workers	1.45	0.27	1.13
3. Clerical and related workers	3.42	0.88	2.72
4. Sales workers	9.88	2.43	7.84
5. Farmers, fishermen, hunters, loggers and related workers	53.24	51.23	52.69
6. Miners, quarrymen and related workers	1.01	0.37	0.84
7. Workers in transport and communication occupations	3.06	0.34	2.32
8. Craftsmen and production process workers	18.16	29.04	21.13
9. Service, sports and recreation workers	6.17	11.32	7.58
Total	100.00	100.00	100.00

Unemployment:

It has already been mentioned that there were 5.47 lakhs of unemployed persons in Kerala at the time of the survey. Of these 3.05 lakhs were men and 2.42 lakhs were women. It is thus clear that women are coming out in large numbers in search of jobs. Unemployed persons have been classified into two groups viz. those seeking work and those not seeking but available for work. The details are given in table 7.4.

TABLE 7.4

Unemployed seeking work and others

Unemployed	*Number (lakhs)*			*% to labour force*		
	Male	*Female*	*Persons*	*Male*	*Female*	*Persons*
1. Seeking work	1.5	1.0	2.5	3.6	5.5	4.2
2. Not seeking but available	1.5	1.5	3.0	3.5	8.4	4.9
Total Unemployed	3.0	2.5	5.5	7.1	13.9	9.1

Out of the total unemployed, only 2.5 lakhs are actively seeking work, and the remaining 3.0 lakhs are not seeking work. Among men these two categories are equal in number but among women active job seekers are less in number. It may be that women have special preferences regarding the type and place of work they want and will be available only for such work.

The intensity of the problem of unemployment is also clear from table (7.4). It is seen that 9.1 percent of the labour force are unemployed. This means that out of every 100 persons who are willing to do work about 9 remain unemployed. Among women, the problem is more serious. Nearly 14 out of every 100 persons in the labour force remain unemployed.

The age distribution of the unemployed persons given in table (7.5) shows that the majority of the unemployed, as is only to be expected, are in the lower age-groups. It is found that 34.67 percent of the unemployed are in the age group 15-19 years and 30.66 per cent are in the age group 20-24 years. In the higher age groups also, substantial numbers are found. It is also seen that the distributions are more or less similar among men and women. It may be noted that persons below 15 years of age and those above 59 years of age were not included in the category unemployed even if they were without jobs and were available for jobs.

TABLE 7.5

Age distribution of unemployed persons

Age group (years)	*Male*	*Female*	*Persons*
15—19	35.17	34.03	34.67
20—24	31.13	30.08	30.66
25—29	13.00	11.19	12.20
30—34	6.22	7.09	6.60
35—39	4.29	6.43	5.24
40—59	10.06	11.10	10.53
Wrong entries	0.13	0.08	0.10
Total	100.00	100.00	100.00

The magnitude of the problem of educated unemployment in Kerala is clearly brought to light in the distribution of unemployed persons by general education given in table (7.6). A little over 25 per cent of the unemployed numbering 1.38 lakhs were metriculates. Graduates and post-graduates among the unemployed were about 7000 in number. It may be seen that among men and women separately also about 25 per cent of the unemployed are matriculates.

TABLE 7.6

Percentage distribution of unemployed by general education

General Education	*No. of unemployed*			*Percentage distribution*		
	Male	*Female*	*Persons*	*Male*	*Female*	*Persons*
1. Illiterate	31330	66430	97760	10.30	27.38	17.88
2. Literate below middle	131350	79810	21116	43.17	32.89	38.61
3. Middle below metric	59350	33800	93150	19.51	13.93	17.03
4. Metric	77440	60160	137600	25.45	24.79	25.16
5. Graduate	4610	1890	6500	1.52	0.78	1.19
6. Post-graduate	160	560	720	0.05	0.23	0.13
Total	304240	242650	546890	100.00	100.00	100.00

There is unemployment among the technically qualified also. The survey results indicate that in 1965 there were about 320 agriculture graduates and 190 engineering graduates remaining unemployed. In the case of diploma holders in technical subjects the situation is very serious. Unemployed diploma holders in Engineering were 3800 in number. There were also 1210 diploma holders in technology remaining unemployed. The total number of diploma holders in engineering in the State was only 13990 and nearly 27 percent of them reported as unemployed. Similarly out of 2720 diploma holders in technology, 1210 or nearly 44 percent were unemployed. Though in terms of absolute numbers the problem is not very serious, it perhaps indicates the necessity to asses the requirements of such personnel in the long-term perspective and plan for their training in such a way that wastage is avoided. Table (7.7) gives the details according to technical qualifications.

TABLE 7.7

No. of unemployed persons with technical qualifications

Qualification	*Unemployed*		
	Male	*Female*	*Persons*
Degree in			
1. Agriculture	320	..	320
2. Engineering	190	..	190
3. Technology	..	..	..
4. Medicine	..	..	..
Diploma in			
5. Engineering	3640	160	3800
6. Technology	890	320	1210
7. Medicine	..	..	..

It has already been mentioned in Chapter 6 that there are rural-urban differences in the proportion of population unemployed. The percentage unemployed is higher in the urban areas. There are also considerable differences between districts in the percentage of unemployed. The highest percentages were observed in Trivandrum and Trichur districts. The intensity of the problem also various considerably between districts. The intensity may be measured by expressing the number unemployed as percentage or the number in the labour force. The relevant figures are given in table (7.8).

TABLE 7.8

Unemployed as percentage of labour force—districtwise

District	*Unemployed as percentage of labour force*		
	Male	*Female*	*Persons*
Trivandrum	10.32	24.76	14.73
Quilon	7.11	17.93	10.14
Alleppey	8.53	14.11	10.41
Kottayam	5.69	9.97	6.80
Ernakulam	7.07	12.07	8.35
Trichur	8.22	18.31	11.98
Palghat	5.40	9.74	6.98
Kozhikode	8.41	10.91	8.96
Cannanore	3.01	3.73	3.17

The intensity of the problem of unemployment is also found to be most serious in Trivandrum district followed by the districts of Trichur, Alleppey and Quilon in the order. In Cannanore district the problem does not appear to be serious at all in view of the fact that only about 3 percent of the labour force remains unemployed. It is also seen that the problem is more serious among women in general. In all the districts, the percentages among women are higher than among men. In Trivandrum district nearly 25 percent of the women in the labour force is unemployed, compared with only 10.32 percent among men. It is possible that, of late, women are entering the labour force in larger and larger numbers and since the number of employed women at present is relatively low, unemployed women as percentage of labour force becomes high. It is also not improbable that in the competition between men and women for a few vacancies that are available, men fare better or that employers generally have a preference for men. This may be true in many fields of activity. It may also be observed that generally, the intensity of the problem of unemployment is higher in the districts of the erstwhile Travancore-Cochin State.

A large proportion of the unemployed have been remaining so for more than a year. About 2.28 lakhs out of the 5.47 lakhs of unemployed fall in this category. The details are given in table (7.9). With respect to duration of unemployment also matriculates seen to suffer most. Among the unemployed matriculates nearly 58 percent have been remaining so for more than a year. Even among graduates out of 6500, reported as unemployed 2900 have been unemployed more than a year.

TABLE 7.9

Unemployed according to general edudcation and duration of unemployment

	General Education	*Duration of unemployment*	
		Upto one year	1 *year or more*
1.	Below middle	214600	94320
2.	Middle below matric	40230	52920
3.	Matric	59390	78210
4.	Graduate	3600	2900
5.	Post-graduate	720	..
	Total	318540	228350

According to the live-register of the employment exchanges there were 1.41 lakhs of persons registered with the exchanges. In the survey 1.38 lakhs of persons were estimated to be registered. This incidentally gives an indication of the reliability of the survey results. Among the registrants 18.6 percent were actually employed at the time of the survey. The remaining are unemployed registrants, and they form nearly 45 percent of the unemployed persons who are actively seeking work.

The rural and urban areas do differ significantly in the matter of registration with the employment exchanges. The relevant figures are given in Table (7.10).

TABLE 7.10

Percentage of unemployed registered with the employment exchange

Region	*Male*	*Female*	*Persons*
Rural	18.69	11.60	15.62
Urban	42.70	35.60	39.27
State	23.37	17.08	20.58

Only 39.27 percent of the unemployed persons in the urban areas are found to be utilising the facilities offered by the employment exchanges. In the rural areas the figure is much lower,

only 15.62 percent of the unemployed being currently registered with the exchanges. (Unemployed here includes persons actively seeking work as well as those not seeking but available for work). The employment exchanges are situated mainly in the urban areas, mostly in the headquarter towns of the districts. This facility is not within the easy reach of the rural people. Only the educated from the rural areas will, therefore, come to make use of the employment exchanges, moreover, the level of education is also generally lower in the rural areas. These factors perhaps explain the low rate of registration in the rural areas.

A good number of the unemployed have expressed their willingness to go outside the State for work. About 1.57 lakhs of unemployed men and 0.40 lakhs of unemployed women are willing to go outside Kerala. Fifty percent of these women and above 33 percent of these men are matriculates or above. There are also nearly 94,000 of these men and women, who are even prepared to go at their expense. It is, thus, clear that it is not financial difficulties which prevent a good number of their from going outside the State for jobs.

Underemployment:

In this survey a person was treated as employed if he worked at least one hour on at least one day during the reference week. Obviously this procedure is loaded in favour of employment. A realistic picture of employment can be obtained if the employed are classified according to the number of hours they actually worked during the week.

TABLE 7.11

Unemployed by Education and Attitude to Mobility

General Education	*Willing to go outside the state*			*Willing to go anywhere in India at own expense*		
	Male	*Female*	*Persons*	*Male*	*Female*	*Persons*
1. Below middle	70170	8780	7895	17830	2350	20180
2. Middle below matric	33030	9760	42790	16690	3790	20480
3. Matric	51270	20830	72100	38150	12200	50350
4. Graduate	2830	440	3270	2300	280	2580
5. Post Graduate	..	400	400	160	260	420
Total	157300	40210	197510	75130	18880	94010

Table (7.12) gives the details.

TABLE 7.12

Percentage distribution of employed persons by hours at work during the week

Weekly hours at work	*Employed*		
	Male	*Female*	*Persons*
0—14	9.87	15.21	11.33
15—28	16.48	21.71	17.91
29—42	25.16	26.29	25.47
43—56	29.85	26.09	28.82
57 and above	18.64	10.70	16.47
Total	100.00	100.00	100.00

It is seen that 83.53 percent of the employed persons worked 56 hours or less during the reference week. This is equivalent to 8 hours or less per day assuming that all the seven days are working days. About 11 percent worked only 14 hours or less during the week and nearly 18 percent worked 15-28 hours. It is thus clear that a substantial proportion of the employed are under work.

Table (7.12) also shows that the situation is worse among the women. A little over 15 percent of them worked 14 hours or less during the week and nearly 22 percent worked 15 to 28 hours. The corresponding percentages for male workers were less. This may be due to the fact that part-time and casual attachment to jobs is more common among women.

The existence of under-employment among the employed is indicated by the above figures. But under-employment cannot be measured solely on the basis of time worked. It is likely that some of the persons who worked less did not want to work more, either because they earn enough out of a few hours of work or because they are satisfied with what they receive. Voluntary under-employment is not generally subjected to economic analysis. Moreover, in the context of our economy where there is admittedly a surplus of manpower, voluntary underemployment loses significance. So it is sufficient to define as under-employed only those persons who worked less and wanted to work more but could not do so because sufficient work was not available.

The term under-employment implies reference to certain norms for employment. In an economy like that of Kerala, where the bulk of the employed work in the unorganised sector of production no such norms exist. Further, it is not possible to evolve a uniform norm in such cases. Such norms necessarily vary from place to place, occupation to occupation, season to season and operation to operation. The evolution of such a set of norms is very difficult. It has, therefore, not been attempted here. Here arbitrary norms have been used. In this report work of duration exceeding 42 hours during a week has been taken as normal. Thus a person who worked 42 hours or less during the week and reported that he was available for further work during the week was treated as under-employed. Availability for work here implies readiness to undertake gainful work consistent with the qualifications of the person concerned and at the rate of remuneration which usually accompany such jobs.

Fixing the normal hours of work to be above 42 hours was done, keeping in view all the occupations. Assuming that, in general, one day in the week is observed as holiday, this means 7 hours per day. Considering the fact that in the unorganised sector, generally, longer hours of work are followed, this cannot be considered unreasonable.

Table (7.13) gives the details of underemployment according to the above definition. It is seen that 25.20 per cent of the employed or nearly 13.78 lakhs of persons were under-employed in the sense that they worked 42 hours or less during the week and reported availability for additional work. The intensity of the problem of under-employment appears to be more serious among women, among whom 27.01 percent are under-employed. Among persons who worked 43-56 hours and even among those who worked more than 56 hours, there are many who reported that they are available for additional work. This may be interpreted to mean only that due to economic necessity they are prepared to work though it may be beyond their physical capacity.

TABLE 7.13

Percentage of employed reporting availability for additional work in each weekly hours at work group

Weekly hours at work	*Number in lakhs*			*Persons available for work as percentage of total employed*		
	Male	*Female*	*Persons*	*Male*	*Female*	*Persons*
0—14	1.30	0.54	1.84	3.27	3.64	3.37
15—28	3.50	1.64	5.14	8.82	11.00	9.42
29—42	4.95	1.85	6.80	12.44	12.37	12.41
43—56	2.02	0.61	2.63	5.09	4.05	4.81
57 and above	0.61	0.10	0.71	1.54	0.68	1.31
Total	12.38	4.74	17.12	31.16	31.74	31.32

Inter district differences in underemployment are shown in Table (7.14). Underemployment seems to be most acute in Alleppey District. Among the employed here, as much as 41.93 percent worked 42 hours or less during the week and reported that they were available for additional work. This is only natural in Alleppey district where the density of population is also highest, thereby imposing severe limitations on the percapita availability of productive resources. Workers are forced to engage themselves in occupations where there is no scope for full-time employment. Quilon district comes next with 33.43 percent of the employed reporting as underemployed. In Kottayam district underemployment does not seem to be a problem at all. Only 10.83 percent of the employed were underemployed. The density of population in Kottayam district in 1961 was only 273 persons per square kilometre the lowest among the nine districts. This, no doubt, indicates that percapita availability of resources particularly land must be very high here.

Underemployment as measured here, includes only lack of sufficient work resulting in lower number of hours worked. This is usually termed visible underemployment. But underemployment is not always reflected in the time worked. In the case of self employed persons, like traders for example, the person concerned may be attending the shop for ten or twelve hours every day with very little turn over. This phenomenon which may be termed disguised underemployment exists on a large scale, but can be measured only in terms of earnings. This is not attempted in this report.

CHAPTER VIII

GROWTH OF LABOUR FORCE

The probable growth of labour force in Kerala during the decade 1966-76 is estimated in this Chapter. Probable changes in the qualitative composition of the labour force are also discussed. The population projections prepared by the Planning Commission are made use of.

Table 8.1 shows the birth and death rates assumed for the projections. The effect of migration has been ignored.

TABLE 8.1

Period	*Birth rate*	*Death rate*
1951—60	38.9	16.1
1961—65	38.8	14.0
1966—70	36.6	11.5
1971—76	32.8	9.2

The projected population by age groups for the years 1971 and 1976 are given in Table 8.2.

TABLE 8.2

Projected population in 1971 and 1976 by age groups

Age group (years)	*Population ('000)*	
	1971	1976
(1)	(2)	(3)
0—4	33621	34951
5—9	29483	32713
10—14	25153	29195
15—19	22006	24877
20—24	19210	21675
25—29	16678	18870
30—34	14408	16366
35—39	12259	14114
40—44	10456	11995
45—49	8795	10134
50—54	7174	8422
55—59	5730	6719
60—64	4484	5225
65—69	3305	3892
70 and above	4239	5065
All ages	217012	244219

For projecting the labour force in 1971 and 1976, the labour force participation rates obtained from the present survey (1965) are made use of. These rates are assumed to remain the same in 1971 and 1976 in all the age groups except 0—14 and 15—19. Deviation has been made in the lowest two age-groups because, as a result of the various programmes for expanding facilities for education, it is expected that proportionately more and more persons from this age group will continue their studies. In 1965, the participation rate in the age group 0—14 was 1.36 per cent. This is assumed to go down to 1.00 per cent in 1971 and 0.80 per cent in 1976. In the age group 15—59, the participation rate was 33.39 percent in 1965. This is assumed to go down to 30 percent in 1971 and 25 percent in 1976.

The labour force and the labour force participation rates used for the projections are given in Table 8.3.

TABLE 8.3

Labour force in 1971 and 1976

Age group	Labour force (In '000)			Labour force participation Rate (%)		
	1965	1971	1976	1965	1971	1976
0—14	103	88	77	1.36	1.00	0.80
15—19	701	660	662	33.39	30.00	25.00
20—24	856	1098	1239	57.15	57.15	57.15
25—29	801	1032	1168	61.90	61.90	61.90
30—34	733	918	1043	63.80	63.70	63.70
35—39	745	789	906	64.22	64.22	64.22
40—59	759	2000	2329	62.50	62.50	62.50
60 and above	317	317	374	26.34	26.34	26.34
All ages	6015	6910	7758	32.03	31.84	31.77

The overall labour force participation rate is found to decline from 32.03 percent in 1965 to 31.84 percent in 1971 and 31.77 percent in 1976.

The projected labour force in 1971 and 1976 are grouped into two classes viz., below matric' and 'matric and above'. Further sub-classification of matriculates and above has not been attempted in view of the fact that after matriculation a person can join a variety of courses of training and education and it is difficult to work out accurately the out-turn from all these courses. Moreover, general educational facilities should necessarily expand year by year and no indication of the possible rate of expansion is available at present. The present survey reveals that of all the persons who possessed educational qualifications of the level 'matriculation and above', 56.97 percent were in the labour force. The corresponding percentage among those who were below matric was 30.84. It is assumed, for the purpose of these projections, that the same percentages will hold good for the matriculates turned out upto the year 1976. This assumption seems to be reasonable because a higher proportion can normally come into the labour force only if plenty of job opportunities become available or if a change in attitude towards employment takes place. Neither seems possible during such a short period.

The distribution of the labour force in 1965 according to age group and educational standard is given in the following table.

TABLE 8.4

Labour Force in 1965 by Education

Age group	*Persons in labour force ('000)*		
	Below Matric	*Matric & above*	*Total*
(1)	(2)	(3)	(4)
0—14	103	..	103
15—19	649	52	701
20—24	731	125	856
25—29	693	108	801
30—34	654	79	733
35—39	706	39	745
40—59	1684	75	1759
60 and above	308	9	317
Total	5528	487	6015

It is assumed that all persons aged 60 and above in 1965 will cease to be in the labour force by 1971. Considering the present standard-wise strength in schools and the present rates of wastage and failure, it is estimated that about 6 lakhs of matriculates will be turned out from our schools during the period 1965-1971 and about 56.97 percent of them will be in the labour force. Thus in 1971 the total number of persons in the labour force with educational qualifications 'matriculation and above' will be about 8.2 lakhs.

In 1971, there will be 3.17 lakh persons in the labour force aged 60 and above. It is assumed that 3.5% of them will be matriculates. The corresponding figure in 1965 is 2.84 percent. The percentage of matriculates and above can be assumed to increase after a period of 5 years. Thus nearly 11000 persons in the labour force, in 1971, who were matriculates and above will cease to be in the labour force by 1976. During the period 1971-76 it is estimated that about 6.5 lakhs of matriculates will be turned out from our schools and by assumption 56.97 percent of them will be in the labour force. The number of matriculates in the labour force in 1976, will thus be of the order of 11.88 lakhs. The summary position in 1971 and 1976 is shown in Table 8.5.

TABLE 8.5

Labour Force in 1971 and 1976 by Education

Educational standard	*Number of person in labour force in the year ('000)* 1965	1971	1976
(1)	(2)	(3)	(4)
Below matric	5528	6090	6570
Matric and above	487	820	1188
Total	6015	6910	7758

It can be seen that in 1976 the labour force in the State will be of the order of 77.58 lakhs. The labour force in the working age group of 15—59 will be 73.07 lakhs. The additions to the labour force during the decade 1966-76 works out to 17.43 lakhs in the age group 15—59. Of this about 7 lakhs persons will have an educational attainment of matriculation or above.

Note: Detailed projections relating to technically trained personnel are made in Chapter 17 "Education and Training".

PART III

TASKS AND POSSIBILITIES FOR EMPLOYMENT AND DEVELOPMENT DURING 1966-'75

CHAPTER IX

AGRICULTURE AND ALLIED SECTORS

Among the different sectors of production agriculture accommodates the largest number of workers. According to the 1951 Census 56.1% of the work-force in Kerala was employed in Agriculture and allied activities. The percentage of agricultural workers decreased to 46.9% in 1961 and agriculture continues to accommodate the largest number of workers. The total number of workers in agriculture was 21.6 lakhs in 1961. Of these 11.8 lakhs were cultivators and 9.8 lakhs agricultural labourers, the corresponding figures in 1951 being 10.12 lakhs and 11.15 lakhs respectively. It is seen that the number of cultivators increased by 16.38% while the number of agricultural labourers decreased by 12.23% during the decade 1951-61.

Out of the State's area of 95.35 lakh acres 47.74 lakh acres are now being cultivated. The proportion of area cultivated to total area in the State is 48.10% as against 14.64% for all-India. The proportion becomes more significant when it is borne in mind that forests cover 27.37% of the State's area. Cultivated land forms 75% of the cultivable land in the State as against 67.3% for all-India. The pressure on land has increased steadily. In the course of the present century the population of Kerala has become more than twice. Land per head of population has decreased from 3.64 acres in 1836 to 0.57 acres in 1961. The per capita land available in 1965 was 51.6 cents and the per capita net area under cultivation was 27.6 cents.

A distinctive feature of agriculture in Kerala is the predominance of perennial crops. Perennial crops occupy 47% of the total cropped area in the State as against 7.4% at the all-India level. Barring plantation crops like tea and rubber, labour requirements are generally low for perennial crops except at the stages of planting and harvesting. The All-India Agricultural Labour Enquiry, 1955-56, has shown that the workers in the agricultural sector get work only for 170 days in a year (and this is the lowest figure obtained in the whole of India) which means that they are without work for more than 6 months in the year. The farm management studies of the Kerala University, also confirm the saverity of underemployment in the State's agricultural sector. Adult members of the selected households were employed on the average for 42.3 days on the farm and 142.1 days off the form which in terms of the standard working day of 8 hours duration comes to 29.6 days and

119.4 days respectively. Thus on the average an adult member of the household was able to find employment on his family farm only for about 1.5 months; he is employed in occupations outside the farm for another 5 months. For the rest of the year he is not employed. Thus agricultural activities keep the sample cultivators busy for a small part of the year, though farming is their main occupation. According to the present survey nearly 54% of the workers were engaged in Agriculture and allied activities. The corresponding figures as per 1961 census was 47%. In the present survey, a person was treated as employed if he worked on atleast one day during the reference week even if the work was only of a nominal nature. Apparently this procedure is loaded in favour of employment. A realistic picture of employment can be obtained only if the employed are classified according to the number of hours they actually worked during the week.

TABLE 9.1

Distribution of Persons Employed in Agriculture by Hours at Work During the Week

Weekly hour at work	*Employed*			*Percentage of employed out of total*		
	Male	*Female*	*Persons*	*Male*	*Female*	*Persons*
0—14	235020	171780	406800	11.55	21.69	14.40
15—28	463780	157220	621000	22.82	19.85	21.98
29—42	610800	204460	815260	30.05	25.81	28.86
43—56	513600	208370	721970	25.27	26.30	25.56
57 and above	209480	38280	259760	10.31	6.35	9.20
Total	2032680	792110	2824790	100.00	100.00	100.00

Table 9.1 shows that among those who were classified as employed, about 34.76% worked for more than 42 hours during the reference week. 65.24% of the workers (64.42% of the males and 67.35% of the females) worked only 6 hours or less on an average per day. Out of the 2824790 agricultural workers (excluding fishermen and related workers) 209270 were temporarily absent from their work during the reference week. Of the remaining about 37.6% were available for additional work.

If a person who worked 42 hours or less during the week and reported that he or she was available for work is treated as underemployed it is found that about 1/3 of the employed in the agricultural sector (excluding fisheries) is under employed whereas in the non-agricultural sector, underemployed form only 1/5 of the employed. Of the underemployed in the agricultural sector (excluding fisheries) more than 50% got work only for 28 hours or less during a week.

The central theme of agricultural programmes in the Fourth Plan is to lay the foundations of self-reliance in the matter of food production, through the fullest utilisation of available resources. Food production is to be enhanced to 21 lakh tons by 1971, thereby achieving near self-sufficiency for the State. The rate of adoption of improved and modern agricultural practices is to be stepped up. An investment of Rs. 23.50 crores is earmarked for programmes devoted to raising agricultural production. The additional continuing employment that will be created in this branch has been worked out 4700 and the additional construction employment of 8775 will be generated during the same period. These estimates have been worked out on the basis of the norms of the Labour and Employment Division of the Planning Commission. Assuming that the same trend of investment will prevail during the Fifth Plan also, it would not be unrealistic to assume an investment of Rs. 40.00 crores, for agricultural production. Using the same norms as above, it will be seen that in 1976, the additional continuous employment will be of the order of 8000 persons and the additional construction employment about 11,325.

Animal Husbandry schemes in the Fifth Plan aim at removing the deficiencies from which this sector had suffered during the earlier plans. Special emphasis to promote production of protective foods of animal origin has been proposed. The Plan has target of livestock production which would cover the breeding needs of over 50% of the cattle population and which in consequence makes it possible to achieve a per capita daily availability of 5 oz. of milk as against 2 oz. at present. Employment in animal husbandry is of a part-time nature and helps to supplement the income of the farmer. According to the Planning Commission's norms, for every Rs. one crore expended in animal husbandry, dairying and milk supply schemes 150 persons will be provided with employment of a continuing nature and 400 men in construction activities. For a total investment of Rs. 4.25 crores in the sector, continuing employment will be of the order of 640 and the employment in construction stage will be of the order of 164. In the Fifth Plan, a further expansion of activities could be envisaged. With the stepping up of investment to Rs. 7.00 crores, the

additional continuing employment created during the Fifth Plan would be of the order of 1050, while the additions to construction employment will be 340.

Forestry:

The main schemes in the Forestry sector in the Fourth Plan are aimed at increasing the extent of plantations of various species to cater to the growing demand of forest-based industries, the railways and for fuel and construction purposes, consolidating and improving the existing natural forests and creation of plantations. Three important schemes are proposed to be implemented.

(i) *Economic Plantations:*—The Fourth Plan proposal is to raise about 30,000 acres of new teak plantations, 20,000 acres of soft wood, 2500 acres of sandal wood, 2500 acres of bamboo and 500 acres of rosewood.

(ii) *Industrial plantations of fast growing species:*—The scheme proposed is for raising plantations of fast growing species in an area of 50,000 acres. This area will be planted with Eucalyptus grandis, Eucalyptus hybrid and tropical pines.

(iii) *Rehabilitation of degraded forests:*—Under the scheme it is proposed to improve the stock of valuable timber species which now get depleted due to lack of regeneration. During the Fourth Plan, 2500 acres will be covered by this scheme. The investment in the Fourth Plan will be of the order of Rs. 5 crores. On the basis of the norms of the Planning Commission, the additional continuing employment in forestry sector has been placed at 2000 and the construction employment at 5220.

During the Fifth Plan, the pattern of developmental activities under forestry can be assumed to be the same as in the Fourth Plan. Thus for a probable investment of Rs. 7.50 crores, the additional continuing and construction employment likely to be created will be 3000 and 4500 respectively.

Soil Conservation:

The heavy rainfall in Kerala, the lateritic nature of the soil, the undulating and steep topography of the land and lack of proper soil management have accelerated soil erosion in Kerala. This not only hampers agricultural production but also causes silting in the reservoirs of hydel and irrigation projects rendering these progressively ineffective. An authentic soil conservation survey of the State has yet to be undertaken. But it can be safely estimated that about 20 lakh acres are highly vulnerable to soil

erosion hazard requiring effective soil conservation measures. The schemes proposed under soil conservation are the following:

(1) Soil conservation on a watershed basis on 60,000 acres of agricultural land.

(2) Research and training of personnel engaged in soil conservation work.

(3) Soil survey and land use demonstration.

(4) Soil conservation demonstration of agricultural lands.

(5) Schemes for the construction of permanent bunds in Kayal, Kole, Kari and water logged areas.

The total employment likely to be generated during the Fourth Plan for a purposed investment of Rs. 2.50 crores will be about 3000 as detailed below:

(A) *Departmental staff:*

		No.
Technical	...	**211**
Others	...	**102**
Total	...	**312**

The requirements of construction personnel have been arrived at as follows:—

Name of Scheme	*Investment amount proposed*	*No. of persons required for Rs. lakhs (man-days)*	*Total employment likely to be granted (man-days)*
Countour Bunding (Stone pitched)	Rs. 185 lakhs	Rubble Mason skilled workers 7000	1295000
		Man Mazdoor 6350	1174000
		Man Unskilled 2045	376200
		Boys unskilled 6260	1157000
			4004200

Assuming that a person working on an average for about 200 mandays a year, will continue to work over the 5 years period, the estimated number of persons likely to be absorbed in construction employment is 2669.

(B) *Construction personnel:*

Rubble Mason	...	**863**
Man Mazdoor	...	**783**
Other unskilled workers	...	**252**
Other unskilled helpers	...	**771**
		2069
Total (A + B)		**2981**

During the fifth plan, the investment may be assumed at Rs. 3 crores, and the recoverage would be another 70,000 acres of agricultural land. The employment will be of the order of 3600.

Minor Irrigation:

In spite of the heavy rainfall the crops in the State suffer from the vagaries of the monsoon. Therefore for increased agricultural production, the area under irrigation should be extended considerably. The minor irrigation programmes yield results quickly and depend mainly on local resources. The total area under irrigation from all sources within the State at the beginning of the Fourth Plan is 6.20 lakh acres (net) compared to a total area of 12.36 lakh acres (net) under paddy. Thus about 6.16 lakh acres (net) have to be provided with irrigation facilities. During the Fourth Plan, extension of irrigation facilities to about 3.69 lakhs acres is proposed of which the target of additional area for in minor irrigation is 1.32 lakh acres of paddy, for an outlay of Rs. 11.00 crores. An additional production of 60,000 tonnes of rice is anticipated. The additional continuing employment created will be 275 persons and the additional construction employment will be of the order of 4050.

These estimates have been arrived at on the basis of the norms of the Planning Commission.

In the Fifth Plan, the additional area to be benefitted by minor irrigation is likely to be 1.50 lakh acres, for which the investment will be of the order of Rs. 15.00 crores. The additional continuing and construction employment created will be 375 and 3000 respectively.

2. *Toddy tapping:*

Consequent on the Government's decision to scrap prohibition, there has been a slight improvement in the employment prospects especially in the agricultural sector.

It has been tentatively estimated that the repeal of prohibition laws in 28 taluks of the state will create employment for nearly 20,000 persons on a full time basis. To that extent, the pressure on employment would be mitigated. At the rate of 12 persons for manning a shop (inclusive of every stage in the process) it can be safely said that when 2000 shops are likely to be opened in 1976 in the erstwhile prohibition areas, the job potential will be of the order of 24,000 persons.

Table 9.2, outlines the investment and the employment to be generated in the State sector during the Fourth and Fifth Plans.

The total employment that would be generated in the State sector comes to about 64,000. In regard to the private and Central Sector investments it is estimated that the outlay in the Fourth Plan will be of the order of Rs 96 crores. It is assumed that private and central sector investments together will go up to Rs. 120 crores during the fifth plan. With the investment the aggregate employment potential in the agricultural and allied sectors will be of the order of 1.80 lakhs on the basis of the norms of the Planning Commission. This has of course to be deflated in order to compensate for changes in the price level. Making due allowances for price changes, nearly 1.44 lakh persons could be provided additional employment in the agricultural sector during the decade 1966-76.

TABLE 9.2

	Investment in the State Sector (Rs. crores)		*Additional continuing employment*		*Additional construction employment*	
	IV	V	IV	V	IV	V
Agricultural production	23.50	40.00	4700	8000	8775	11325
Minor irrigation	11.00	15.00	275	375	4050	3000
Soil conservation*	2.50	3.00	312	3600*	2669	..
Animal Husbandry & dairying	4.25	7.00	640	164	1050	340
Forests	5.00	7.50	2000	5220	3000	4500

*Inclusive of construction also.

It must however be mentioned that the scope for a significant extension of the area under cultivation is rather restricted. A similar problem possess itself in the matter of conversion of single crop lands into double crop. It has been assessed that only 1.25 lakhs acres of single crop land are available for double cropping. Hence the prospects of enlarged employment opportunities in the agricultural sector during 1966-76 appear dim. Much of the current developmental activities in the agricultural sphere centre around an intensification of the cultivation practices which can only help to lengthen the working hours of the agriculturists.

CHAPTER X

FISHERIES

Kerala occupies a unique position in Indian fisheries. About 65% of the total fish production in the country is accounted for by the State. The predominance of Kerala in Indian fisheries is a mark of the high productivity of her fishng grounds, more than than skill of her fishermen and the efficiency of the fishing equipment. In the economic reconstruction of the state, fisheries hold a major place owing to the following reasons:

(i) Fish is a source of rich protein food. In a developing economy, where the people are underfed and diet deficient in proteins, fish is a good supplementary food capable of meeting the twin demands simultaneously.

(ii) Fish products are valuable foreign exchange earners. Some of the important species like prawns and shrimps available in Kerala's waters are in high demand in foreign countries.

(iii) Fishing is the only occupation of a section of the society. About 2% of the population are dependent on it for their livelihood.

The highly perishable nature of the commodity coupled with the seasonality of the hatches render fishing a risky enterprise and the returns unsteady. The middlemen who constitute the financiers and traders of the industry reap the bulk of the gains, the fishing equipment mostly belonging to them. The personal engaged in fisheries come under two district classes viz., (i) those employed in the fishing crafts and (ii) those attached to the processing and marketing of fish and fish products. Eventhough the fishing season is spread from September/October to April-May, there is the lean period from January to April/May. Apparently full employment to prevails only for a short period of about 4 to 5 months in a year. During the remaining period of the year, the fishermen are either unler-employed or unemployed. More than 50% of the total catches of the non-mechanised crafts are landed during the period September to December. This is mainly due to the fact that the traditional operations are effective only when the shoals move to inshore waters. During the lean periods the shoals migrate to offshore waters and hence are out of reach of the local efforts. The incomes of the earners and earning dependents engaged in fishing are meagre. On an average half the number

earn less than Rs. 10 per fortnight. Hardly 5% of the earners and earning dependents earn more than Rs. 50 per fortnight. The average annual production per fishermen in Kerala in 1960 was 1130 Kg., as against 2230 Kg., at the all India level. The average catch per man hour was 8.62 Kg., for Kerala in 1960 compared to 4.02 Kg., for India. In 1959 the average catches per man hour for Kerala and India were 3.02 Kg., and 2.34 Kg., respectively. With about 83200 active fishermen in Kerala, the fishing efforts per fishermen were 480 manhours in 1960 and 761 manhours in 1959 as against 541 and 618 manhours in 1960 and 1959 respectively for India as a whole.

The usual pattern of employment on the traditional crafts which operate in the inshore regions are 8 to 11 persons on the big canoes, 3 to 5 on the small canoes and 2 to 3 in the catamarans. The canoes engaged in the onshore operations however provide employment for 1 to 3 persons. The small mechanised boats ranging between 22 ft. and 25 ft. in length, provide employment for 4 persons in a boat. They involve higher capital-labour ratio compared to the canoes. The duration of fishiig operation increased to 5 to 6 hours on the mechanised boats as against 2 to 3 hours on the canoes. With improved capital equipment, the labour productivity on the powered vessels has gone up. Consequently there has been a rise in the income of the fishermen in the mechanised sector.

The Five Year Plan schemes consist of development of inland and marine fisheries, provision of facilities for fish handling and processing, organisation of fishermen co-operatives etc. At the end of the Third Plan, there were 680 mechanised boats ranging from 26 ft. to 36 ft. in size. The smaller boats of 22 ft. to 25 ft. issued in the beginning of the Second Plan have mostly gone out of operation. During the Third Plan alone, 346 boats were issued to the fishermen through the public sector. The indigenous crafts comprised of 20427 canoes and catamarans. The fish production in the State went up from 2.68 lakh tonnes in 1961 to 3.40 lakh tonnes in 1965. Considering the potentialities of the fishing industry in the State, the investments higher to made in the sector are inadequate.

The Fourth Plan aims at a 25% increase in fish production and a 300% increase in export earnings from fisheries products. The total outlay proposed is Rs. 12.50 crores in the State sector. An additional outlay of Rs. 3.25 crores has been earmarked in the Central Sector for building harbours and landing centres.

The anticipated production at the end of 1970-71 is as follows:—

		(In 000 tonnes)
1.	Reservoir	0.10
2.	Ibland	9.00
3.	Indigenous canoes	8.00
4.	Supply of modern fishing requisites	8.00
5.	Power fishing	54.00
	Total	79.10

The mechanisation programme in the State sector would generate as much as Rs. 10 crores as additional foreign exchange as a result of export of fish and fish products. It is expected that the private sector will also contribute foreign exchange of the same order.

The manpower complement of a developing fishing industry falls into four categories.

(i) Fishermen, labourers and technicians of various levels of skill;

(ii) Managers, accountants etc., and their staff;

(iii) Administrators with varying range of responsibilities;

(iv) Research workers in various applied industries. In the following analysis the second and third classifications are grouped together.

In the Fourth Plan the outlay proposed for prawn fishing is Rs. 491.60 lakhs. The programme is to introduce 800 mechanised boats of size ranging between 30 ft., and 55 ft. The fishing personnel required are 6 persons each for the 30 ft., and 32 ft., type boats, 8 for the 36 ft., boat, 10 for the 43½ ft., boat and 12 for the 55 ft., boat. On an average 4 persons per boat are also required for the unloading of the catches. The employment potential of this programme is provided in Table 10.1.

TABLE 10.1

Fishing personnel (Public Sector)

	Type of Boat	*No. of boat*	*Size of crew required per boat*	*Total Crew No. (direct employment)*	*Indirect employment*
1.	30 ft. boat	380	6	2280	1520
2.	32 ft. boat	285	6	1710	1140
3.	36 ft. boat	115	8	920	460
4.	43 1/2 ft. boat	15	10	150	60
5.	55 ft. boat	5	12	60	20
	Total	800	x	5120	3200

At the rate of 2 trained persons per boat, the additional number of trained fishermen required during the Fourth Plan period is 1600. At present there are 4 mechanised fishermen training centres in the State located at Vizhinjom, Ernakulam, Beypore and Cannanore. During the Fourth Plan, a new centre at Neendakara will be started. The number of trainees per batch of at each centre will be raised from 40 to 60.

To meet the requirements of master fishermen, engine drivers and second hands, the programme is to train 155 persons in the Central Institute of Fisheries operations at Ernakulam during the Plan period.

Besides the fishing personnel, 3200 persons more are expected to be benefited by the scheme. Their services will be required in the unloading and handling of the fish catches from the boats to the landing centre or to the primary market centre which will normally extend for an hour or two.

Based on the past trends, it is expected that there will be about 600 mechanised trawlers introduced in the private sector. The employment potential of the fishing personnel in the private sector will be of the order of 3600 persons at the end of 1970-71.

Government have a scheme to give subsidy to the fishermen for the construction of indigenous canoes. The total subsidy proposed for the plan period being Rs. 6.00 lakhs. About 800 indigenous canoes will be commissioned during the Fourth Plan However the additional employment created on account of this will be rather little as there may not be any net addition to the total number of canoes. The number of old canoes which are to be replaced annually will be even more.

In the public and private sectors together, the additional employment for fishermen, likely to be created at the end of 1970-71, is 8320. The number of part-time labourers required for unloading of fish etc., will be about 5800.

At the end of the Fourth Plan, a total requirement of 1100 tonnes of ice per day will be necessary. This would envisage the provision of an additional facility for 550 tonnes per day over the existing capacity of 550 tonnes. Provision has been made in the Fourth Plan for the establishment of 5 new plants with a total production capacity of 250 tonnes of ice per day. In the private sector, the same pace will be maintained raising the total production by 500 tonnes per day. Freezing and storage facilities in 4 new plants and expanding the existing facilities in 6 plants in the public sector have also been planned. Additional freezing facilities so provided

will be about 100 tonnes per day. In the private sector there will be atleast an additional provision for 80 tonnes of freezing capacity daily.

Provision has also been made for the establishment of fish-meal plants.

The outlay proposed for providing facilities for handling fish and fish products is Rs. 120.00 lakhs.

The additional labour employed in the freezing plants will be 1750 direct and 1000 indirect.

The estimates of employment potential in other fields are the following:—

1.	Boat building yard	500
2.	Reservoir fisheries	550
3.	Net making plant	30
4.	Ice plants and cold storage	7
5.	Organisation of fishermen co-operatives	2200
6.	State Fisheries Corporation	1590
		4940

In the private sector the employment potential is 1400 in the freezing plant and 70 in the ice plants.

The supervisory technical personnel required in the public sector undertakings are estimated to be 380.

Administration and Managerial Personnel:

At the end of the Third Plan, there were 121 administrative and managerial personnel. The estimate of administrative and managerial personnel required for the Fourth Plan are placed at 131.

Research workers:

At the end of the Third Plan, there were 2 Research Officers, 2 Research Assistants, 4 field Investigators and 8 Statistical Investigators under the Plan Schemes. In the Fourth Plan, the outlay proposed under research and statistics is Rs. 20 lakhs. The programme is to introduce a fully well equipped vessel to undertake research studies in the off-shore waters of Kerala. The requirement of Research Workers, etc., is estimated to be 27 during the Fourth Plan.

According to the present Sample Survey on Employment there are 116410 persons engaged in the fishing industry. The number

of persons actually engaged in fishing industry at the time of the survey was 114170. The distribution of these employed persons by employment status is as provided below:

Employment status	*Males*	*Females*	*Total*
1. Employee	69730	7110	76840
2. Employer	1600	160	1760
3. Own account worker	24870	8530	33400
4. Unpaid helper	1720	450	2170
Total	97920	16250	114170

The estimates of employment to be created in the fisheries industries during the Fourth Plan period are summarised below:

Direct employment	*State sector*	*Private sector*
1. Fishing personnel on power boats	No. 5120	3600
2. Labour processing plants	No. 1750	1400
3. Labour requirements in other fishery establishments and organisations	No. 4940	..
4. Supervisory technical personnel	No. 380	..
5. Administrative and managerial personnel	No. 131	..
6. Research workers	No. 27	..
Total	12348	5000

Indirect employment	*State sector*	*Private sector*
1. Fishing personnel on power boats	No. 3200	2200
2. Labour in processing plants	No. 1000	800
Total	4200	3000

The total employment created during the Fourth Plan will be of the order of 24500 of which about 17300 will be direct employment and 7200 indirect. These figures are exclusive of the labour required for the construction of fishing harbours, factory buildings etc.

At the end of the Fourth Plan fish production would be around 4 lakh tonnes in the State and 15 lakh tonnes in the country as a whole. But considering the demand, the total fish production will be inadequate. The per adult requirement of meat, fish and eggs in India is 41 kg. per annum, or 4 ozs., per day. Assuming that 65% of the population are non-vegetarian, the total requirement of protein food in the country in 1975-76 would be 125 lakh tonnes. Since the production of meat and eggs is very low, much of the protein food has to come from fish.

The scope for increasing fish production in Kerala is enormous. The oceans have always remained a vast source of food and other materials of value for man but these resources have not been exploited with any degree of zeal and interest. The systematic exploitation of wealth from the sea has only recently begun in India. Since scientific knowledge about the Indian seas is limited a very ambitious scheme could not be conceived of in the Fifth Plan. Since Kerala has abundant fish potential attempt has to be made to step up production by 50% during the Fifth Plan period.

An additional production of 2 lakh of tonnes of fish could be envisaged in the Fifth Plan. About 1500 fishing vessels of 32 ft., to 90 ft., are required for this purpose. There should also be adequate facilities for fish handling, processing, etc. Assuming a 20% increase in the cost of capital equipment during the Fifth Plan period, the total outlay required in the Public and private sectors together amounts to Rs. 50 crores. The aggregate employment potential expected is about 30000, 20000 in the fishing sector and 10000 in shore installations.

The employment potential in the fisheries sector during the Fourth and Fifth Plan period together is 54500. The employment potential in the Fifth Plan is less than that of the Fourth Plan considering the investments involved. This is mainly accounted for by the more mechanised nature of fish production contemplated in the Fifth Plan period.

CHAPTER XI

TRADITIONAL INDUSTRIES

The majority of the industrial work force in Kerala is engaged in traditional and low-wage industries. Even the factory sphere is dominated by food processing industries. The average industrial worker in Kerala gets the lowest wage compared to his counterpart in other States of the Indian Union. Many of the State's industries are hampered by shrinkage of markets and shortage of raw materials. If traditional industries in the State are to be placed on a firmer footing, a thorough investigation into their organisational aspects will have to be made. All these industries are labour intensive in nature and hence their modernisation by the introduction of higher technology might involve some displacement of labour. But without some amount of modernisation and technological improvement industries like coir which depend largely on demand from foreign markets are liable to languish and slowly die out. Hence a

multipronged action is needed for the resuscitation of the traditional industries. From the employment angle what is needed is to maintain atleast the present levels of employment in the years to come. The equivalent amount of labour displaced by modernisation should atleast get employment in the new lines of production in traditional industries.

Coir industry:

Coir industry is the biggest industry in the State from the employment angle. The peculiar facility for retting coconut husks that exists in abundance along the coastal regions has been responsible for the large scale development of the industry in the State. Export earnings from coir manufactures are of the order of Rs. 12 crores. The various processes starting with the collection and retting of coconut husks upto the spinning of yarn from the fibre are carried out mostly by small household units. A vast majority of labourers in the household sector are females. The present survey reveals that about 2.37 lakh persons are employed in the coir industry. There are various estimates of employment in the industry but generally it is agreed that about 3 lakh persons are engaged in the industry while a much larger number depend upon it for livelihood. Acccording to the 1961 census 2.5 lakh workers were engaged in the industry. Wages prevailing in the industry are very low.

There is considerable amount of under-employment in the industry. Over 50% of the workers employed are available for some other work and about 44% of the wokers work for 28 hours or less per week.

The main problem confronting the industry is the severe competition it has to face in international markets for its products. Coir yarn constitutes nearly 70% of the quantity of coir good exported and accounts for just over 60% of the total value of exports. 20% of the total quantity of exports is coir mats which accounts for 27% of the total value of the exports. Indian coir yarn has a good reputation in the foreign markets. The recent fall in the yarn exports is due to the lesser intake by Burma, Portugal, Netherlands and Hungary. Export of Coir products like mats, mattings, rugs and carpets to the U. S., East Europe and U. S. S. R. improved during the past three to four years while the performance in the case of West European countries was not encouraging. In the wake of devaluation some of the foreign customers were not prepared to buy Indian coir goods at pre-devaluation rates. The Techno-Economic Survey of Kerala has forecast that the main increase in demand for Indian coir goods in future is likely to accrue from the middle income group markets like Italy and Middle East. With the rise in the standards of living, lower income group countries in the Far

East are also likely to become important markets for Indian Coir goods. What is vitally essential in order to retain old markets and to open up new ones is the diversification of products based on coir and improvement of the quality of the products. This underlines the need for mechanisation of atleast the manufacturing sector.

While mechanisation is an imperative necessity, care will have to be taken to see that it does not result in displacement of workers for whom alternative jobs will have to be found in new lines of coir. The coir industry has set up a National Coir Training and Design Centre which is charged with the responsibility of making innovations and improvements in designing and adopting modern techniques within the overall policy set up by Government towards mechanisation. The Centre has already taken up the work of bringing out modern patterns in mats and mattings. Sample design cards illustrating new patterns have already been distributed on a limited scale. Skilled personnel acquainted with the basic principles of designing and weaving are required by the industry and it is felt that with the advancement of the industry this long felt need would be met At present the indigenously dyed products are characterised by poor penatration of dyes and dullness in the tone of the shade. Possibly the use of correct dyes might be the answer to these problems.

There is a proposal to introduce a small portable machine to extract fibre from retted husks which will enhance poductivity as well as the income of the workers. Spinning of coir yearn is the most labour intensive process in the coir industry. The traditional methods are hand spinning and spinning with the aid of spindles or 'ratts'. Considerable physical drudgery is involved in the spinning process and owing to the low output, returns are also low. The question of introducing mechanised spinning has therefore engaged the attention of planners for sometime. The Gevernment of India Production Centre at Ettumanoor has already devised a power driven spinning machine. The cost of this machine is between Rs. 1000 and Rs. 1200. The yarn produced on this machine is no doubt of improved quality, but owing to the fact that the fibre has to be fed to the machine by hand and inturruptions due to breakages cannot be avoided, the output is not significantly higher than the ordinary hand-driven spinning wheel. The possibilities of further improving the power driven spinning wheel is being explored.

The Government of India and the Planning Commission have accepted in principle the need for introduction of mechanisation in the industry. The industry has been using mainly handlooms for the manufacture of mats, mattings and carpets. The European factories are more modernised and mechanised and have been successful in expanding their business. If the industry is to hold on to the foreign markets it should be capable of producing coir goods

which can compete with those produced by the European factories. The gradual modernisation of the industry therefore becomes a necessity. As a first step, a mechanised factory with five powerlooms will be set up by the Coir Board. In the course of the Fourth Plan period three such factories may go into operation.

Coir industry holds considerable opportunities for additional production and employment through new products out of coir. A new line of manufacture is the production of woven fabrics from an admixure of coir fibre with other fibers such as sisal. Experiments are being conducted with different combination of fibres in order to achieve the best possible results. Cheaper varieties of mats are being produced from the coir variety Beach Yarn. This yarn variety is bleached in order to enable the same to yield good mats. Of the new items of manufacture will carpets have been greatly admired. The Commercial manufacture of wall carpets for sale abroad as well as within India will be taken up soon. Another significant new product is the pile carpet which consists of coir yarn in the warp and jute in the weft. Kerala is yet to make advances in the matter of producing rubberised coir products which resemble foam rubber. Rubberised coir can be successfully and economically substituted for foam rubber.

In view of the fact that their is considerable demand for mattress and bristle fibre from foreign markets, the Coir Board has taken the initiative in setting up units for producing this type of fibre. A few units in Kerala have been licensed and more units are expected to be set up during the Fourth Five Year Plan period. These units will open up the potential for the production of unretted coir fibre and its utilisation as bristle fibre, mattress fibre, curled fibre and rubberised fibre.

One of the items which has recently become popular is the carnatic pile carpet. If the fibre can be softened by chemical methods and dyeing could be done in soft pastel colours with floral and other designs and the carpet could be given a thin inlay of rubberised coir, the finished product would, to a considerable extent, resemble and will be able to replace good woolen carpets which are fairly costly for the average middle class consumer. Such a product may cause a revolution in the floor covering industry. There are other developments possible viz., (i) to have false roofing made of coir (ii) using coir is insulating transport vehicles carrying fish and other perishables. It should be possible for the coir industry to produce a satisfactory cushioning material, particularly with the advancement of the rubberised coir industry.

The Coir Development Scheme was introduced in the First Five Year Plan of the Travancore-Cochin State. The main objective of

the scheme was to organise workers in to co-operatives and thereby ensure larger volume of employment and better wages. The Coir Industry Act was passed in 1953 in order to tackle the problem on All-India basis. Under this Act the Coir Board was set up at Ernakulam in 1954. The responsibility for the development of the industry and for the promotion of exports is vested with the Board. The main emphasis during the Second and Third Plan periods was on the strengthening of the position of primary producers through the organisation of co-operative societies, by undertaking research and by assisting in the marketing of coir products both in and outside India.

The programme for coir development during the Fourth Plan aims at improving upon the existing levels of production and production techniques of all coir products so that the volume of gainful employment relating to the industry may not fall. The co-operative societies will be assisted in improving the techniques of production, to increase output and to ensure qualitative improvement so that internal and external demand for the end products may be maintained. An outlay of Rs. 200 lakhs is provided in the Fourth Plan. As many of the schemes in the Fourth Plan were aimed at financing the already existing coir societies not much of additional employment could be expected to be generated during the Plan period. During the Fifth Plan period also there will be a concerned effort at improving the existing levels of production and production techniques so as to improve the earnings of those depending on the industry.

Employment in the new lines of production will be of a full time nature and will bring in better earnings as better technology will be adopted. If investment of the order of Rs. 2 crores could be made in coir industry during the next decade (1966-76) employment generated will be around 5000 (assuming an investment employment norm of Rs. 4000 per person). An outlay of another Rs. 2 crores will be necessary for assistance to Coir Societies. But the total employment generated will not however increase the level of employment in the industry, for continued attempts to modernise the industry will be made during the two Plan periods with consequent displacement of labour. What is necessary from the employment angle is to adopt a phased process of mechanisation so as to enable the simultaneous absorption of labour displaced in new lines of coir manufacture and thus atleast stabilize the present level of employment in the industry.

Cashew:

Kerala accounts for 90% of the world production of cashew kernels. Out of 1.27 lakhs factory workers in Kerala nearly 89,000 persons are engaged in this industry. A major feature of the industry is the prevalence of a low level of technology. Productive stry will be made during the next two plan periods with consequent

capital required per worker in the industry is about Rs. 275. The main problems confronting the industry are its seasonal nature, non-availability of raw nuts in adequate quantity and the competition in foreign markets from East African countries.

As cashew is one of the most labour-intensive industries in the State where most of the operations are performed manually the wage rate prevailing in the industry is very low. It is found that in 1962 the average annual wages per worker is only Rs. 411 and the average daily earnings Rs. 1.61. Most of the workers in the factories are in the monthly pay range of Rs. 1 to 50. 95% of the workers in the industry are women. Recently a revised rate of minimum wages was fixed for various categories of workers to take effect from 1-11-1967.

The total raw nut consumption in all the factories in the State together is around 2 lakh tonnes. This is inclusive of both the indigenous production and the nuts imported chiefly from East Africa. The industry is in the grip of insecurity as the East African Countries themselves may enter into large scale production of cashew kernels. Such a situation will bring in its wake not only a curtailment of the raw materials but will also exert a competitive pressure on markets available to India. If India is to sustain the present production of cashewnuts a properly planned drive to increase the area under cashew is vitally necessary.

A major reason for the large dependence on imports is that a good portion of the indigenous production does not reach the processing factories. The production of raw nuts according to the trading interests is about 70 to 80 thousand tonnes. The Ministry of Food and Agriculture places it at about 1.25 lakh tonnes. With a view to ensuring that raw nuts produced are channalised for utilisation in the processing factories the State Government has prohibited the roasting of cashewnuts at the household level.

The State's Fourth Plan proposes to increase the production of cashewnut from 0.94 lakh tonnes at the end of the Third Plan to 1.04 lakh tonnes by extension of area and issue of loans to private persons for raising cashew. A total increase of 1.84 lakh tonnes envisaged at the all India level during the Fourth Plan period, will help to meet the requirements of Kerala to some extent by drawing upon the raw nut supplies from other States.

If the attempt at mechanisation of cashew processing industry in foreign countries succeeds, India will have to close down 70 to 75% of its factory establishment. This will have disatrous consequences on the industry in Kerala. The only answer to this major challenge is large scale plantation of cashew trees in large tracts of cultivable waste available in the Malabar region.

Experiments conducted at the Industrial Testing Laboratory, Trivandrum on the brown thin skin covering the cashew kernel have shown that it consists of a condensed type of tannin and 45 to 50% of this could be extracted with water. Tannin from cashew testa compares well with that of wattlebark extract used in leather tanning industry. There is acute shortage of tanning material in the country. Wattlebark and its extract value at about Rs. 1 crore are being imported annually. More than 3000 tonnes of cashew skin will become available for industrial purposes in the Quilon area from which it is estimated that more than 1500 tonnes of tannin extract valued at about Rs. 15 lakhs could be manufactured.

The cashew shells contain a black, oily liquid which can be extracted and put to economic utilisation. About 17000 tonnes of oil could be recovered during the roasting stage if all the cashew units are to be engaged in its extraction. The shells contain some oil even after the recovery of oil during the roasting process. This could be recovered on a centralised basis through the solvent extraction process, but a beginning with this need be made only after the full oil potential during the roasting stage has been tapped.

Cashew-shell oil is a versatile raw material. The liquid can be directly used as a preservative in the painting of boats, fishing nets and light wood work. It finds direct use as a water proofing agent also. U. S. A. is purchasing about Rs. 2 crores worth of shell oil. Phenolic resin of immense industrial potential is made out of this oil as also paints, varnishes, lacquers, phenoil, road surfacing compounds etc. If these products are manufactured within Kerala State itself it will have its beneficial impact on production and employment. A cashew shell oil processing factory to produce 2500 tonnes of cashew oil per year will need an investment of Rs. 30 to 33 lakhs and will provide employment to about 300 persons. Further recovery of oil will be encouraged if the oil could be industrially utilised within Kerala.

Cashew apple is a rich source of vitamin 'C' and the apple juice can be profitably made use of in the preparation of certain beverages, spiced cashew apple juice and juice blenus with pine, pineapple, orange, grape or apple juice. A large part of cashew apples produced is being wasted mainly due to the problems arising in the collection, preservation and transport of perishable fruits from scattered areas. The scope for industrial utilisation of the cashew apple will definitely improve with the cultivation of the cashew tree on large plantation basis.

Better technology could be introduced in new lines of manufacture especially those using the cashew shell liquid. Assuming a capital-labour ratio of Rs. 5000 per person, employment to the tune of 4000 persons could be provided if an investment of Rs. 2

crores is made in the Fourth and Fifth Plan periods together. Employment in the new lines of manufacture based on cashew industry will not only ensure full-time employment but also better wage levels. In this traditional type of industry also the main aim in the coming decade of development should be to maintain the present levels of employment.

Tile Industry

The tile industry is concentrated in the Centres Quilon, Feroke, Trichur and Alwaye. There are 229 tile factories in the State providing employment to about 25000 workers. More than 50% of these factories are situated in Trichur District. The investment per worker in the industry works out to Rs. 1580 and the investment per unit to Rs. 1.72 lakhs. Production per worker averages to about Rs. 1600. The major factors which have influenced the location of the industry in Kerala are the availability of raw materials like Clay, Sand, Firewood, etc., transport facilities and cheap labour. The production of tiles, at the all India level may be placed at 40 to 43 million numbers valued at Rs. 6 crores. The annual production of tiles in Kerala is estimated at 30 to 35 million valued at Rs. 4 crores. The capital investment in the industry is around Rs. 4 crores.

The factories are in various stages of development and have a varying capital structure. Most of the unit in the Feroke area are large ones with modern refactories. Conveyers and improved kilns and driers with a capacity of over 8 million tiles per year and investment of about Rs. 15 lakhs for each unit. The medium type of units have a production of 3 million tiles per year and require around Rs. 6 to 8 lakhs of investment. In the Trichur district most of the units are small ones with an annual production of less than 1.2 million tiles and having an average investment of about Rs. 2 lakhs. Production per worker per day averages about 100 tiles in the case of large mechanised units. 60 tiles in the case of medium type units and less than 50 tiles in small units. Of the three categories of units the performance of the medium type of units (partly mechanised) is fairly good. The fully mechanised units of the type found at Feroke have not only lost their overseas markets but also are facing severe competition from the smaller units of the Trichur District. The exfactory price of 1000 tiles manufactured in various factories in the State ranges from Rs. 80 to Rs. 220 whereas the price of tiles sold in distant markets in North India and the neighbouring States vary from Rs. 250 to Rs. 350. The freight for 1000 tiles is reported to be of the order of Rs. 125 to 150 for delivery at the destination. As a result of the high freight charges the market potential for the tiles produced in Kerala, is fast dwindling and new factories are being establishing in North India and other areas. The tile industry is at present passing through a critical phase. Its export performance

has been none too optimistic owing to the plentiful availability of substitutes such as cement, concrete, asbestos sheets, corrugated sheets etc., as roofing material. The markets in Australia, Burma and East Africa have almost disappeared.

The wages in the industry are low. The economics of production in this labour intensive industry do not permit the payment of handsome wages to the workers. Better productivity and product diversification can improve the industry's profitability and thus enable it to pay better wages. But more mechanisation of the existing small units will not be of much advantage because even the large units which have installed machinery and enquipment comparable to foreign plants are facing serious difficulties. There is quite a severe competition going on between the larger units and the smaller ones. The victims of this competition are almost invariably the large and medium units having modern machines and equipment and turning out better quality products. The machinery used by these units is more elaborate and expensive; the overhead expenses are also much more. Further in such modern units the losses incurred as a result of breakdown and lower production are much higher than in small units. While the selling price of tiles produced by the larger units ranges between Rs. 180 and Rs. 220 per thousand, some of the small units sell their product at Rs. 80 to 100 per thousand. The question of modernisation of the industry is to be considered against this complex background.

The use of modern machinery and the adoption of better techniques of production no doubt will increase the production of standard quality tiles, but the higher production costs will lead to lower sales and insufficient margin of profits to the modern units. It should therefore be seen that the extent of modernisation is consistent with the profitability of the industrial unit. Unrestricted competition between the large and small units might throw the industry in the reverse gear. In such a state of affairs it is only natural for the industrialists to neglect quality of the product and to concentrate on quantity in order to compete with smaller units. Further, idle capacity may also be result from mechanisation.

All tile factories manufacture roofing tiles and floor tiles while some factories produce wire out bricks, fire bricks, stoneware and ceramicware in addition to roofing tile. The quantum and production in each factory is regulated by market demand. The idle capacity in the industry may be estimated at 20 to 30% in the State as a whole. Rise in the cost of indigenous production of tiles, high freights levied by shipping companies, shortage of shipping space, shortage of railway wagons and high incidence of railway freight are other problems confronting the tile manufacturers.

The immediate interest of tile industry in Kerala lies in effective sales made in distant places. For this it is necessary to connect the missing links of rail transport between Trichur and Chamarajnagar viz. Koilengode, Chittur and Coimbatore. This will open metre-gauge rail transport for this tiles throughout India besides shortening the existing distance. Bulk transport of tiles in complete goods wagons to selected areas will facilitate reduction in freight charges besides ensuring timely supply.

The formation of a common marketing agency will facilitate the fixing of selling rates suitably as well as demarcating the areas to be served by different tile units. This will result in a proper understanding among the tile units. Tile industry should examine the possibility of collective distribution of tiles to distant places in the country like that of Cement Marketing Agency. This will promote rational distribution, bulk carriage of tiles associated with modern material handling methods and reduction in handling charges.

Tiles and other ceramic industries in Kerala face an acute problem in respect of fuel. Most of the tile factories at present use firewood as the kilns are designed for firewood only. The survival of the industry for the present depends on the availability of sufficient firewood at reasonable rates. As suggested by Dr. Lokanathan alternative fuels for ceramic kilns will have to be looked into in view of the fact that firewood as an industrial fuel will be available for a maximum period of 10 years only. There is a feeling that there is enough firewood available in the forests of Kerala. The Government has to pay special attention and evolve a suitable machinery by which arrangements could be made to procure and supply firewood at reasonable rates to all the tile factories. Steps should also be taken up to ensure supply of other items like light, diesel oil, kerosene etc., used in tile factories.

The industry needs trained technical personnel in the cadre of supervisors and assistant managers. To meet this demand it is suggested that the possibility of organising suitable technical training courses should be explored and facilities provided for such training as well as for starting diploma and degree courses in ceramic technology in the Universities of the area. It is also suggested that wages of workers should be fixed not only with reference to the cost of living but also with reference to effective production, as the industry has the responsibility for paying reasonable wages to labour.

The tile industry is gradually facing a crisis with a considerable fall in foreign export, intensive competition in internal markets and changing patterns of the building trade. To effectively meet the situation the industry has to diversify its production by taking up

the manufacture of allied items like salt glazed pipes, chemical stoneware, hallow bricks, facing bricks etc. The State could support the industry by meeting its requirements of tiles and allied products from within the State. As in the case of coir and cashew, stabilising atleast the present levels of employment is the major task facing the industry during the forth and fifth plan periods.

Handloom Industry

The handloom industry provides employment to nearly 2 lakh persons in Kerala State. It is estimated that there were about 1.2 lakh looms in Kerala. The biggest concentration of the industry in the State is in the Cannanore District which accounts for 38700 looms in the private sector.

The present survey on unemployment shows that 68670 persons are employed in cotton weaving in handlooms. Only about 55.7% of the workers in the industry worked for more than 42 hours during the reference week. About 7.8% worked only for 2 hours or less on an average.

The textiles manufactured by the organised handloom sector do not compete with those produced by the cottage industry. Handloom weavers generally produce coarse and semifine quality cloth which has a localised market, whereas the organised handloom sector specialises in production of furnishing materials, towels, bed linen, shirting etc., which find markets outside the State or even outside the country.

Production in the eight spinning mills of the State is insufficient to meet the yarn requirements of the handloom sector. The handloom factories of Malabar are particularly hard-hit as they have a very rigid pattern of yarn requirements. In view of the unused capacity in handloom sector there is an urgent need to expand the spindlage capacity through expansion of existing units and construction of new spinning factories.

The production pattern of the handloom industry is at variance with the pattern of consumption which is changing in three different directions, viz., from the traditional to the cosmopolitan dress habits, from natural fibres to manmade fibres and from ordinary cloth to finished cloth like mercerised, sanforised or wash and wear type. The handloom industry is still producing only garments in traditional use out of one particular fibre. It also produces some mixtures, but the quality is very small. Besides it has no facilities for finishing of cloth according to modern requirements.

The industry therefore has to adapt itself to the changing trends in consumer tastes and plan the pattern of production accordingly. One of the reasons why the slump in the handloom industry

today is more severe than in the mill sector, is that mills, particularly those having good finishing plants, are able to sell their cloth better than handlooms.

The Kerala Government has decided to form a Handloom Finance Corporation. The Government is considering provision of immediate relief to 1000 unemployed handloom weavers in Cannanore District. The Handloom Finance Corporation is being set up to make the necessary capital available to handloom and its ancillary industries especially those outside the co-operative fold. The Corporation will be started with an initial capital of Rs. 30 lakhs and the investment would be progressiveiy increased during the next five years.

The strengthening of the Co-operative Apex Society is the only solution for the proper working of the Co-operative Sector. An amount of Rs. 3.18 lakhs has been sanctioned as grant to wipe off the accumulated loss of the Apex Society. The Reserve Bank of India has been requested to sanction Rs. 20 lakhs to the Apex Society as cash credit accommodation for trading in yarn. The State Co-operative Bank has also sanctioned Rs. 15 lakhs to the Apex Society. The Government has also decided to increase its share in the capital of the society by Rs. 10 lakhs. This would enable the society for higher limits of credit accommodation from Reserve Bank.

The Government has set up a Handloom Advisory Board with the Minister for Industries as the Chairman. Arrangements are to be made for the production of yarn of count required by the handloom industry in the two co-operative mills at Cannanore and Balaramapuram. The All India Handloom Board has promised to start a Weaver's Service Centre in Kerala and this Centre is expected to start functioning in Trivandrum within three months.

During the Third Plan 48000 out of the estimated loomage of 1.20 lakhs were organised into co-operatives and 404 co-operatives including one Apex Society and 20 factory type industrial co-operatives were functioning. The programme for handloom in the Fourth and Fifth Plans will be mainly directed towards improving the techniques in the industry. An investment of Rs. 6.19 crores is proposed for the Fourth Plan which includes an outlay of Rs. 3.8 crores for powerloom. A total investment of Rs. 15 crores could be expected to be made in this sector, during the coming decade. An outlay of Rs. 85 lakhs is provided in the Fourth Plan for the development of handicrafts in the State. A total outlay of Rs. 2.50 crores could be expected in the Fourth and Fifth Plans together for handicraft development. The outlay intended for the development of Khadi and Village industries is Rs. 40 lakhs in the Fourth Plan. A total outlay of around Rs. 1 crores could be expected under this head of development during 1966-76. If real investment of the order of

Rs. 10 crores as against an expected total outlay of Rs. 18.5 crores is made under the above items of development, viz. Handloom, Handicrafts and Khadi and Village Industries, it would be possible to create additional employment for about 50000 persons. (here the Planning Commission's norm of 5000 jobs for Rs. 1 crore of investment under handicrafts is applied).

The examination of the working of traditional industries in the State clearly show very little possibility of increased employment and point to the importance of maintaining at least the present levels of employment in these industries.

CHAPTER XII

SMALL SCALE INDUSTRIES AND RURAL INDUSTRIES PROJECTS

Small Scale Industries can make a significant contribution to expanded employment and increased production. One of the principal aims of planning in this field is to assist in the adoption of improved techniques and more efficient forms of organisation so that full advantage is taken of the basic facilities and services and over a period the sector becomes self supporting.

At the beginning of the Third Plan there were 530 registered Small Scale Industries in the State, employing nearly 5500 persons. Quick response from the public to set up small units has been one of the heartening features of the past two or three years. The number of registered small scale units is about 3000 at the end of the Third Plan, employing nearly 30000 persons. This records nearly a sixfold increase in empolyment in this sector.

The setting up of the Kerala State Small Industries Corporation was a major step towards the encouragement of small industries. The Corporation has been entrusted with the management of industrial estates, raw material transactions of the Department and construction of new industrial estates. The Corporation is also running a few common facility centres and some production units. A hire purchase scheme has recently been initiated by the Corporation to supplement the hire purchase facilities for machinery, available to the industrialists from the National Small Industries Organisation. One of the main bottlenecks observed for technological improvement has been the absence of the die-making and cooling facilities. Service workshops and tool rooms have therefore been started. Common Service Facility Centres in Ceramics, Wood

working, General purpose engineering, die casting, foundry work etc., were started. For giving training to persons engaged in small scale industries, training centres such as footwear and leather goods training centre at Palghat and Glass Utility Articles Training Centre at Kasargode were started and training was imparted to a number of persons. Under the scheme 'Advance training for Artisans and extension personnel. a training centre was started at Pallithura in Trivandrum District. Quality marking depots for soaps and oils, leather goods, aluminium utensils, cutlery and agricultural implements were started. In addition to the existing chemical testing section, a plastic technology section and a food and forests produce technology section were also added to the Industrial Testing and Research Laboratory under the Directorate of Industries. Small workshops were constructed in rural areas by the Industries Department and were handed over the private parties on hire-purchase terms. Loan facilities to small scale industries were provided through the Department and through Agency Loans from the Kerala Financial Corporation.

There has been a significant growth of small scale industrial units through the State during Third Plan period. In order to assess the impact of Government assistance on the small scale sector the capital and employment position of the units assisted by Government, have been surveyed. It is found that among the 368 units studied 157 (more than 42%) have come up during the Third Plan period. The 368 units had a total fixed capital of Rs. 94.61 lakhs and a working capital of Rs. 64.65 lakhs. Total employment in these units comes to 4885. The per worker investment in all the industries together works out to 3260. Per capita investment in each industry at the end of Third Plan is given in Table 12.1.

TABLE 12.1

Industry	*Per capita fixed capital*	*Per capita working capital*	*Per capita productive capital*	*No. of units studied*
(1)	(2)	(3)	(4)	(5)
Fruit canning	611	870	1484	4
Fish canning	1595	658	2253	2
Backery	1290	455	1745	7
Soda	619	309	928	5
Beedi & Cigar	142	386	528	9
Oil mills	4155	16877	21032	7
Hosiery	668	1000	1668	1
Garment making	313	137	452	10
Saw mills	3664	733	4397	20

(1)	(2)	(3)	(4)	(6)
Umbrella making	462	855	1317	9
Carpentry	701	364	1065	59
Printing	1828	1153	2981	20
Leather works	283	797	1080	11
Rubber products	7909	2121	10330	14
Matches	1054	424	1478	12
Soap	554	899	1433	8
Lime curing	1390	860	2250	8
Ayurvedic medicines	1243	603	1846	13
Tiles	1395	1488	2283	12
Ceramics	539	886	1525	3
Metal products	2099	1108	3207	47
Agricultural implements	255	341	596	9
General Engineering	2883	2410	5293	33
Electrical Engineering	412	538	950	3
Boat building	651	677	1328	1
Cycle manufacturing/repair	6465	2073	8538	2
Ice manufacturing	38529	7471	40000	3
Block making Candle making Straw Board Bone meal Cement products Glass works Miscellaneous	1710	1157	2867	36
ALL INDUSTRIES	5957	1323	3260	368

Among the 4885 persons employed in 368 units 2265 are skilled employees and 444 managerial and supervisory. The skilled plus managerial and supervisory persons come to above 55% of the total employment.

The actual investment in the 157 new units started during the Third Plan plus the investment on expansion in old units come to Rs. 85.99 lakhs. The employment created as a result of this is 2333 per capita investment therefore works out to Rs. 3690.

Besides the Kerala Small Scale Industries Corporation the major institutions aiding the development of small industry are the Small Industries Service Institute, Trichur and the National Small Industries Corporation.

The Small Industries Service Institute at Trichur offers a variety of assistance to the industrialists in the State. Industrial extension centres in various trades are functioning under this Institute, providing free technical advice on the use and procurement of machinery, right type of raw materials, efficient methods of production, supply

of designs and latest advancement in Science and Technology. Training facilities are available in trades like Foundry, Footwear and Leathergoods manufacturing, Smithy, Carpentry, etc. Ten extension centres are being run in various parts of the State. The Institute also gives instruction to small scale industrialists in proper methods of business management including marketing, financial accounting, cost accounting, factory legislation, personnel relations etc.

The National Small Industries Corporation assists small scale units in securing Central Government and railway contracts for supply of stores. Twenty-seven items have been exclusively reserved for procurement from small scale units. The Corporation also assists the units receiving the contracts, to get financial assistance from the State Bank of India. Corporation undertakes the supply of machines to small scale units on hirepurchase system on easy instalments. Intending industrialists have only to pay 20% of value as earnest money and the balance in the course of about seven years in half yearly instalments.

The proposals relating to Small Scale Industries during the Fourth Plan have as their objectives improvement in the levels of technology, strengthening of industrial co-operatives, expansion of credit facilities to enable modernisation and expansion of small industries and increasing the utility of the small industries Corporation in the promotion of small scale industries. The important schemes proposed in the Fourth Plan are installation of an oil-fired tunnel kiln and attached buildings at the Ceramic Service Centre at Mangattuparamba, completion of the Foundry Services Centre, Trichur, completion of the schemes for setting up 10 rural workshops in the N. E. S. Blocks initiated in the Third Plan, continuation of the Glass Utility Articles Training Centre, Kasaragod, continuation of the cluster type training centres for artisans which started in the Third Plan period and participation in exhibitions. It is proposed to spread the activities of the quality marking unit to more areas and to increase the number of the products brought within the purview of quality marking and to give technical guidance for improving quality and to increase the utility of the existing Industrial Testing Laboratory by adding sections for food and forest products, plastics technology, mineral technology, glass blowing, bio-chemistry, physics and electricity. It is also proposed in the Plan to enhance the capital of the Kerala State Small Industries Corporation by Rs. 1 crores during the Plan period. For all these schemes together an outlay of Rs. 4.11 crores is suggested in the Fourth Plan.

As a result of the intensive campaign for the development of small industries, launched by the State Government in the wake of the new Industrial Policy Statement of Kerala about 1200 applications for small scale industries involving a fixed investment of about

Rs. 5 crores have been approved. It is hoped that the private sector investment in small industry will atleast be of the order of Rs. 5 crores during the Fourth Plan period.

In the Fourth Plan, an outlay of Rs. 11.70 crores for small scale industries development is suggested in the Central sector. Altogether a total investment of about Rs. 31 crores is expected in the field of small industries during the Fourth Plan period. Assuming that in the Fifth Plan also the same rate of investment (Rs. 31 crores) will take place, and assuming a capital labour ratio of Rs. 5,000 per person, the total additional employment that can be expected in the coming decade under small industries is 1.23 lakhs.

Industrial Estates:

At the end of the Third Plan there were 8 Industrial Estates. Overhead facilities comprising buildings, power and water connections are being provided in these estates. At present ten more Industrial Estates are under construction, five of which located at Karakulam, Vazhakulam, Irinjalakuda, Shoranur and Changanacherry are almost complete. Industrial units have been sponsored in three of these. All these industrial Estates will be completed by August-September 1967. This would mean a total of 18 Estates in the State, two in each district. There will be about 500 sheds in all the estates together.

In the functional Industrial Estate at Changanacherry, 32 units based on rubber and plastics have been sponsored. The starting of inter-related units in the neighbourhood has enabled the provision of common facilities for testing, quality control etc.

The available data on industrial estates in Kerala indicate that considerable investment has been made on land and buildings for the industrial estates programme. During the Second and Third Plans together 268 sheds (3 special type, 22 A type, 57 B type and 198 C type) have been constructed in the various estates. Though there are several defects in implementation, the programme is getting popular and there is good demand for factory sheds. With the increased tempo of industrialisation that is envisaged in the Fourth and Fifth Plans, the demand of sheds is bound is go up considerably.

The total investment in the estates is of the order of Rs. 109.22 lakhs in 1965 and the employment provided 1436 persons. An additional investment of Rs. 60 lakhs was anticipated before the completion of the Third Plan for the existing as well as new estates proposed in the Plan. This will help to provide additional employment for about 900 persons, assuming the existing capital employment ratio. Thus by the end of the Third Plan the total employment generated through the Industrial Estates programme was about 2300.

Increased activity in the industrial estates will naturally lead to some concentration of industrial labour in the areas in which the estates are located. Expansion of educational, medical and transport services then becomes a necessity and all these activities will help to change these areas into industrial townships. These changes will help to expand employment in the Factory Sector activities as well.

The Fourth Plan provides an outlay of Rs. 1.40 crores for industrial estates. It is proposed to construct about 220 additional sheds in the existing industrial estates. Five assisted industrial estates in the private sector are also proposed to be established. The assistance will be in the form of guarantee or loan or both to the extent required. A proposal for setting up a marine industrial estate near Ernakulam with Norwegian Collaboration is also envisaged. This estate will be catering to the needs of industrial development in the coastal area in general, with special emphasis on units based on marine activities. The Hindustan Machine Tools has requested the State Government to set up an ancillary industrial estate in their premises. Five additinal development plots in or close to cities having industrial development potential are proposed in the Fourth Plan. These plots will be provided with the basic requirements like power, factory sites, roads etc., as an encouragement to promissing entrepreneurs to set up units.

An investment of about Rs. 5 crores will be male on the industrial estates programme in the Forth and Fifth Plans together. An investment of about Rs. 10 crores could be expected in the decade 1966-76 to utiiize the facilities created through the programme. Thus a total investment of about Rs. 15 crores could be expected in the coming decade. This help to generate employment for about 4,000 persons.

Rural Industries Projects:

A programme which has met with considerable success is Rural Industries Projects. The Evaluation study team on Rural Industries Projects set up by the Planning Commission has adjudged the programme in Kerala at Kozhikode and Alleppey as the best in the whole country and the Rural Industries Planning Committee has issued instructions to various State Governments to study the Kerala pattern in implementing the programme in their respective States. On the whole 106 units consisting of Common Facility Service Centres, Training Centres, Commercial Schemes and industrial units assisted by way of building loans or hire purchase aid for machinery, are coming up under this programme in Kerala.

In the Kozhikode Project factories for leather tanning, footwear making, for making glass bottles, agricultural implements, cattle feed, bone meal and an ice plant and cold storage have been set up. In Alleppey, the Chemical Industrial Estate at Aroor is nearing completion. Chemical Industries like manufacture of pure chemicals, Calcium Chloride, Sillica gel and Sodium Silicate, Strychnine, pharmaceuticals etc., are being established. There is good response from the public for availing financial assistance and for starting industries in the project area. Common Facility Service Centres for Blacksmithy, Carpentry and Pottery in Alleppey and Bell Metal and Marine Diesel Engine in Kozhikode have also been started. On the whole the 106 units in the two project areas provide additinal full time employment to over 1200 persons. Almost all the units utilise the locally available raw material and skill and only very few require imported raw materials. The employment potential of the project at Kozhikode is 1200 and that at Alleppey is 1500 when all the units envisaged are commissioned. As the total employment at present in both the projects together is only 1200, there is possibility of providing employment to 1500 persons more in the near future.

The success of the projects at Kozhikode and Alleppey has roused considerable interest from other areas of the State to have similar projects. This experience deserves to be adopted in more areas of the State both as a measure of chanelling rural savings in productive activities and as a measure of providing more employment to rural population.

The Fourth Plan for the State has made the following suggestions:—

(i) A provision of Rs. 15 lakhs each per year for the five years of the Plan for each of the two project at Alleppey and Kozhikode could be made in order to take up and implement more programmes with speed and efficiency.

(ii) Four more additional Rural Industries Projects could be set up in the State. During the first year, a provision of Rs. 5 lakhs may be provided for each of these for preliminary studies and drawing up of programmes. In subsequent years a provision of Rs. 15 lakhs per year for each project is proposed.

The Rural Industries Programme is a line of activity where the Centre can consider the requirements of the State sympathetically and throw open new ways of life to the rural population. The investment suggested in this head of development in the Fourth Plan is Rs. 3.30 crores. Assuming that the investment in the Fifth Plan period will be double that of the Fourth Plan a total investment of about Rs. 10 crores could be envisaged during the coming decade. The cost per person employed in rural industries is on an average around Rs. 1,000. The basic idea of the rural industries projects

is to take intermediate technology to the rural areas. Hence assuming a capital labour ratio of Rs. 2,000 per person, total employment that would be generated in the coming decade under the programme is about 50,000.

Table 12.2 provides the figures relating to expected investment and employment in the small scale sector during the coming plan decade.

TABLE 12.2

Scheme	*Investment*		*Employment potential (in lakhs)*
	State (Rs. crores)	*Central and private (Rs. crores)*	
Small Scale Industries	8.22	53.40	1.23
Industrial Estates	5.00	10.00	0.24
Rural Industries Projects	..	*10.00*	*0.50*
Total	13.22	73.40	1.97

The total employment potential of small scale industries in the Fourth and Fifth Plans together is 1.97 lakhs, assuming that a total investment of the order of Rs. 87 crores is made in the small scale sector during the decade.

CHAPTER XIII

LARGE AND MEDIUM INDUSTRIES

Substantial gains in the levels of living and of employment can be achieved only by diversification of Kerala's economic activity through rapid industrial development. The State does not possess a satisfactory record in the development of large and medium industries. The major factors holding back more rapid industrial development are lack of capital, lack of entrepreneurship, poor level of technology, low labour productivity and inadeqate development of the infrastructure necessary for industrial growth. During the first and second Plan periods no appreciable progress could be achieved in the sphere of large and medium industries. The Third Plan however had to its credit, a good record in the number of industries set up. During 1961-66, 33 new industrial projects of the major types were

taken up for implementation of which 3 were in the Central sector, 3 were Co-operative ventures and 27 were in the private sector. Of these 31 have been commissioned by 1967. In the Central sector, the H.M.T. at Kalamasserry and the Cochin Refinery at Ambalamukal have gone into production while construction of the Precision Instruments Factory at Palghat and the Hindustan Latex Company at Trivandrum is underway. In the Co-operative sector, the Chittur Co-operative Sugar Mills, the Mannom Sugar Mills, Pandalam and the Co-operative Spinning Mill at Cannanore have started production. In the private sector, Cominco Binani Zinc Smelter Unit at Edappally and the three spinning mills at Cannanore, Kottayam and Nattika are nearing completion. The 24 units operating in the private sector employ 7167 persons. The Central sector units H.M.T. and the Cochin Refinery have an investment of Rs. 35 crores and employ 2439 persons. The total investment in the Co-operative sector is Rs. 3.14 crores and employment 1972 persons.

Twenty-nine of the new projects started during the Third Plan are classified according to industry and given in Table 13.1 together with their investment and employment.

TABLE 13.1

Industry	*No. of units*	*Fixed capital (Rs. lakhs)*	*Employment*	*Per capita fixed Capital (Rs.)*
(1)	(2)	(3)	(4)	(5)
Steel	3	132.10	742	17800
Cables & Wire ropes	3	247.27	640	38635
Chemical products	3	180.08	301	59830
Textiles	7	390.95	1944	20110
Sugars	2	267.41	1379	17940
Flour mills	2	25.03	101	24780
Rayon Grade pulp	1	859.36	1785	48140
Tyres	1	294.20	704	41790
Clay refining	1	55.00	890	6180
Tapioca starch	1	150.00	175	85710
Transformers	1	160.00	261	61300
Machine tools	1	490.95	2125	23480
Fibre foam	1	26.00	120	21670
Water meters	1	9.75	97	10050
Oil refinery	1	3000.00	314	955400
All Units	29	6296.10	11578	54380

The working capital estimated for all these units together will come to about Rs. 27 crores on the basis that working capital will be about 30% to one-third of the total productive capital. The

estimated total productive capital of these units is Rs. 90 crores. Also 4 units in the private sector, which have not started production, have made an investment of about Rs. 7 crores (Rs. 5 crores by Cominco Binani Zinc and Rs. 2 crores by the three Spinning Mills). Therefore the total investment in the Third Plan in the large and medium sector would be about Rs. 97 crores.

Expansion of old projects:

There was significant expansion in the Fertilisers and Chemicals. Udyogamandal, Travancore-Cochin Chemicals, Indian Aluminium Company, Alupuram, Aluminium Industries, Kundara and Travancore Titanium Products, Trivandrum during the III Plan periods. The total capital investment in these factories towards expansion schemes was 23.27 crores resulting in an additional employment for 2512 persons. The most significant change occurred in the FACT and the entire expenditure for this unit was met by the Government of India. Details of the investment for expansion and the employment created in these factories are given in table **13.2.**

TABLE 13.2

(Rs. 000's)

Factory	*Land & Building*	*Machinery*	*Furniture etc.*	*Working capital*	*Total capital*	*Employment created (Nos)*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
FACT	234.15	368.99	12.78	270.91	886.83	1682
T. C. C.	80.17	308.63	8.74	59.33	456.87	244
INDAL	59.07	329.70	3.77	118.35	510.40	103
ALIND	51.29	92.17	6.05	180.29	330.40	293
T. T. P.	*15.68*	*89.75*	*5.56*	*31.89*	*142.87*	*290*
ALL	440.36	189.82	36.90	660.77	2327.85	2512

Total investment in the Third Plan:

It is seen that about 97 crores of rupees have been invested on new projects and 23.28 crores for major expansion schemes. Thus the total investment during 1961-66 amounts to about Rs. 120 crores. The break up of this according to the sector in which the investment has been made is given below:—

	Rs crores
Central Sector projects	59 (estimate)
Co-operative sector	4 ,,
Private sector	57 ,,
Total	**120**

Employment:

Of the total number of 11578 jobs shown in Table 13.1, 5480 jobs come under the categories skilled, managerial and supervisory. The remaining, i. e., 6098, are unskilled jobs. As a result of the expansion of 5 factories, 2512 persons were additionally employed (vide Table 13.2). Of this about 1200 come under skilled, managerial and supervisory. Hence the total employment created during the Third Plan comes to 14090. The sector-wise and skill-wise distribution of employment is provided in Table 13.3.

TABLE 13.3

Sector	*Skilled, managerial and supervisory*	*Unskilled workers & office staff*	*Total*
Central sector projects	2314	1707	4021
Co-operative sector	212	1760	1972
Private sector	4154	3943	8097
All sectors	6680	7410	14090

It can be seen that the central sector projects with nearly 50% of the total investment employ only about 28.5% of the total jobs created. This is due to the highly capital intensive nature of the Cochin Oil Refinery.

The per worker fixed capital investment in the units established during the Third Plan period are furnished in Table 13.4.

TABLE 13.4

Industry	*Per capita fixed investment (Rs.)*	*No. of units considered*
Steel	17800	3
Cables and wire ropes	24440	4
Paper and Rayon grade pulp	28370	3
Chemical products	29310	8
Electrical Goods	23010	3
Textiles	10650	18
Sugar etc.	15200	3
Tapioca products (starch etc.)	47750	2
Soaps & Oils	14490	3
Rubber products	21110	3
Ceramics	6030	3
Tiles and Bricks	8460	2
Plywood	6890	2
Rare earths	29100	1
Machine tools	23480	1
Oil Refinery	955400	1
Glass	1940	1
Water Meters	10050	1
Rubberised fibre	21670	1

Some of the major industries in the State are located in the Cochin-Alwaye region. The industrial belt in the region has its necleus at the Kalamassery-Udyogamandal, Edayar area. The Periyar river is the major source of water and means of navigation to all the industries in the region. The major industries in the Kalamassery region are the Hindustan Machine Tools. The Chithra Mills, Chackola Spinning and Weaving Mills and the Premier Tyres. The Cochin Oil Refinery is situated at Ambalamukal. The proposed fertiliser factory is also to be located in the Cochin-Alwaye region. Expansion of the existing units in the region together with the proposed ones will lead to more employment generation during the fourth and fifth plan periods. The National Employment Service has made a comprehensive survey of the region in 1965. It is estimated that nearly 25,000 additional jobs could be generated during the fourth plan period itself if the industrial units intended to be located in the area go on stream.

In the Fourth Plan, expansion of existing units is accorded a somewhat higher priority than the establishment of new factories. Even where the setting up of new lines of production is concerned the preference will be for those using indigenous raw materials, or for those which are located in areas where power transport facilities etc., are easily available. Next in the scale of preference comes those indusries which are export-oriented or import-substituting. In the State sector, the outlay proposed is approximately Rs. 20.00 crores, and relates chiefly to the strengthening and enlargement of the capacity of the State undertakings. In the Central sector, Rs. 125 crores of investment is likely to be forthcoming. As regards the private sector, the possible ventures that could be started in the IV Five Year Plan are indicated in the State Plan document. It is hoped that with the assistance of the Central financing institutions like the L. I. C., I. F. C. and I. C. I. C. I. which are in in favour of industries being located in the backward States and the positive support of the State Government and allied institutions there would be better progress in the establishment of industries in the private sector. The probable outlay in the private sector during the IV Plan can be placed at Rs. 60 crores. Thus the total investment that is likely to materialise during the Fourth Plan would be Rs. 195 crores. Assuming a likely investment of Rs. 300 crores (one and a half times of that of the Fourth Plan investment) in the fifth plan peroid, the total investment likely in the decade 1966-76 will be around Rs. 500 crores The State Industries Department has estimated a capital labour ratio of about Rs. 50,000 per person in large scale industries. On the basis of this ratio it can be estimated that the employment potential in the large scale sector in the coming decade will be about 1 lakh.

CHAPTER XIV

POWER

The rapid expansion of power supplies is of paramount importance to Kerala as the State does not have fuel resources such as Coal and Oil. Thanks to the abundant water resources, the State is advantageously placed in the power map of India. Kerala's industrial backwardness calls for speedy and adequate power generation. Generation of cheap hydel power in Kerala will not only ensure regulated flows in the various rivers, but will also contribute to agricultural, industrial domestic and saline extrusion uses.

Kerala by its peculiar topography of quick descent from an elevation of several thousand feet above mean sea level to near about sea level across the narrow strip of the Western ghats and because of its heavy rainfall ranging from 60 inches to 200 inches per annum, lends itself to hydro-power development. The State claims about 7% of India's total estimated potential of 40 million KW. at 60% load factor. The schemes so far taken up will utilise only about 35% of the available potential and the schemes already completed utilise a bare 8%. The power potential of Kerala is indicated in Table 14.1.

TABLE 14.1

Kerala's Power Potential

Sl. No.	*Name of Basin*	*Total firm power at 60% in MW.*
	West flowing rivers at 60%	
1.	Valapattanam Basin	28.5
2.	Kuttiyadi Basin	46.7
3.	Chaliyar Basin	68.3
4.	Bharathapuzha Basin	93.3
5.	Chalakudi Basin	277.0
6.	Periyar Basin	1314.1
7.	Pampa Basin	321.8
8.	Achankoil Basin	8.3
9.	Kallada Basin	10.0
	East flowing rivers	
10.	Bhavani Basin	116.0
11.	Kabbani Basin	88.0
	Total	2372.0

1 MW—1000 KW

Power development in Kerala commenced with a small plant installed by the Kannan Devan Hills Produce Company with a capacity of 200 KW. during the early part of the century. A systematic beginning for an extensive utilisation of hydro-power resources in the State was made in 1940 with the commissioning of the I Stage of the Pallivasal Hydro Electric project. Since then Sengulam, Peringaikuthu, Neriamangalam, Panniar, Sabarigiri and Sholayar Projects have been taken up and completed.

The Hydro-electric power resources of the State are concentrated in the river basins of Periyar, Chalakudy, Pamba, Kuttiadi, Chaliyar and Bharathapuzha. Table 14.2 gives the approximate cost and the power capacity of the various projects which are under different stages of execution.

TABLE 14.2

Project	*Basin*	*Power-capacity (KW)*	*Approximate cost*
A. Projects in operation			
Pallivasal	Periyar	37500	4.32
Sengulam	,,	48000	3.70
Neriamangalam	,,	44000	3.75
Peringalkuthu (Left bank)	Chalakudy	32000	3.99
Panniar	Periyar	15000	N.A.
Total—A		176500	
B. Projects under execution			
Sabarigiri	Pamba	300000	24.91
Panniar	Periyar	15000	4.84*
Sholayar	Chalakudy	54000	4.32
Kuttiadi	Kuttiadi	75000	5.25
Idikki	Periyar	500000	52.60
Total—B		944000	91.92

*Cost for the whole project

The power projects taken up so far indicate that the State has taken advantage of the integrated development of hydro-power schemes in the same river valley. For example a number of projects are located in the Periyar river basin. The other important schemes which have been investigated or are under investigation are shown in Table 14.3.

TABLE 14.3

Sl. No.	Project	Basin	Power potential at 100% load factor in KW.
1.	Mudirapuzha left bank	Periyar	15000
2.	New Stations	,,	14000*
3.	Pallivasal	,,	70000
4.	Mudirapuzha right bank	,,	25000
5.	Neriamangalam	,,	39000
6.	Perinjankutty	,,	43900
7.	Lower Periyar	,,	12000
8.	Puyankutty	,,	108000*
9.	Kakkad	Pamba	72500
10.	Peringalkuthu Right bank	Chalakudy	42500
11.	Adirappalli	,,	45500
12.	Silent Valley	Bharathapuzha	62500
13.	Kerala Bhavani	,,	70000
14.	Chalipuzha	Beypore	40600
15.	Mananthody	Kabbani	52800

*Seasonal power for six months only.

During the first two Five Year Plans an amount of Rs. 33.45 crores was actually spent on power development. By the end of the Second Plan, the I and II Stages of Peringalkuthu Hydro-Electric Project with an installed capacity of 32000 KW. were completed. The Neriamangalam station consisting of 3 units of 15 MW. has also been completed partially. This raised the generating capacity of the Kerala State Electricity Board to 147500 KW. The outlay for the Third Plan was fixed at Rs. 43.56 crores. An expenditure of Rs. 60.83 was incurred during the Plan period.

The generation of power increased from 350 million units in 1956 to 582 million units in 1961. The Panniar Project with a capacity of 30 MW., was commissioned early in 1964. The Sholayar Project with a capacity of 54 MW was partially commissioned in 1965 with only one 18 MW unit functioning. The Sabarigiri Project with an installed capacity of 300 MW was partly completed only just after the Third Plan expired. The Kuttiadi project with 75 MW and the Idikki Project with 520 MW were commenced.

By the end of the Third Plan the installed generating capacity of the State system was only 192.50 MW. But by July 1966 installed capacity rose to 310.5 MW., with the partial commissioning of Sabarigiri Project.

The policy for power development in the Fourth Plan aims at increasing the installed capacity of power generation so as to ensure that power generation is adequate to meet the demand and that

there is firm power available to meet the demand even during non-monsoon periods. The Fourth Plan outlay fixed for Power Programme is Rs. 82.50 crores. The power generation projects under execution and for which provision has been made in the Fourth Plan are Neriamangalam, Panniar, Sholayar, Sabarigiri, Kuttiadi and Iddikki. Besides, provisions have been made for new hydro electric schemes, a Thermal Power Plant at Cochin, transmission and distribution schemes, rural electrification schemes and investigation of new schemes.

It is estimated that the average load towards the end of the Fourth Plan will be of the order of 644 MW. The generating capacity of the spillover projects which will be commissioned during the Fourth Plan period is 268 MW. at 100% L.F. as detailed in Table 14.4.

TABLE 14.4

Project	*Additional firm capacity* 100% *L.F. (M.W.)*	*Installed capacity (M.W.)*
Sabarigiri—Additional 4 units (during 1966)	90	200
Kuttiadi (to be completed by 1967)	28	75
Idikki—1st unit by 1969-70	70	120
Additional two units by 1970-71	80	240
Total	268	635

Thus the generating capacity of the existing projects together with that of the spillover schemes is of the order of 471 MW. as against the estimated demand of 644 MW. Hence the deficit to be made good during the Fourth Plan period will be of the order of 173 MW.

The State has been experiencing power shortages during the I & II Plan periods. This deficit continued in the Third Plan also and the closing year 1965-66 was almost a calamitous one necessitating very drastic power cuts, almost paralysing all the industrial activities in the State during the summer. Power cuts have become a regular feature during the summer months. To stabilise power supply position a thermal power station with a capacity of 100 MW. has also been proposed to be set up during the Fourth Plan period.

The emphasis in the Fifth Plan will be on the provision of an adequate margin of capacity over and above the maximum expected demand. This could be achieved when most of the power projects

function at full capacity. The major item of development in the Fifth Plan would be rural electrification and the use of power by industries hitherto not using power. A probable outlay of Rs. 150 crores could be envisaged in the Fifth Plan for power development. The estimates of additional employment worked out on the basis of Planning Commission norms for the Fourth and Fifth Plan periods are shown in Table 14.5.

TABLE 14.5

Plan	*Outlay (Rs. crores)*	*Continuing employment*	*Construction employment*
Fourth Plan	82.5	5000	9000
Fifth Plan	150.0	9000	12000
Total		14000	21000

The employment potential of power schemes in the Fourth and Fifth Plans together thus comes to 35000.

The importance of power development for employment lies not in the power programme itself, but in the industrial development that it generates. Industries in Kerala utilising large quantities of power are the power intensive projects like Aluminium and Zinc Smelting, Electro-chemicals, production of caustic soda etc. At present more than 50% of the total load is accounted for by such power-intensive industries. Unfortunately these industries do not have considerable labour potential, inspite of their heavy capital outlay. If power development is to be related to the growth of employment potential in a big way, industrial development will have to be oriented towards the growth of industries which do not use electricity as a raw material. Engineering industries, agriculture and other types of small and medium industries, which use power in essentially labour intensive processes must be given greater encouragement. Lack of power facilities has stood in the way of rapid development of industrial estates and rural industries projects in the past. The State will soon be enjoying a period of comparative affluence in power. Therefore a reorientation of industrial development towards the rapid development of industries providing more employment and capable of having backward and forward linkages in the State would yield immence benefits to the unemployed labour force in the State.

CHAPTER XV

TRANSPORT

In Kerala the various modes of transport, viz., rail, road, air and water, have to be viewed as integral parts of a composite network, so designed as to facilitate smooth and quick internal traffic and unbroken inter-state traffic movements. The various consumption, distribution and production needs of the State make heavy demands on the transport system. It has also to meet part of the transport needs of Mysore and Madras for their exports and imports. Owing to the peculiar topographical conditions of the State and the absence of a well developed railway system, the road system plays the major role at present. Water ways also serve a substantial part of the population. The transport system of the State consists of 892 kilometres of railways, 17,182 kilometres of roads, 1,885 kilometres of inland waterways, 111 statute miles of airways and 13 ports including the major port of Cochin and the two intermediate ports of Alleppey and Calicut. Nearly 3% of the working force in the State are engaged in this sector.

Roads:

There are many difficulties in embarking on a large scale road programme not the least being limitation of capital resources. The Nagpur Plan strongly urged priority in providing capital resources, for road construction. The economic advantage of this approach was brought out by the results of a Pilot Survey conducted by the Indian Road Transport Development Association. This revealed that for every Rs. 100 spent on road construction and maintenance in several areas, the community would benefit to the extent of Rs. 277 apart from the rise in Government revenues through increased use of road transport and other social benefits. Table 15.1 gives the classification of roads maintained by the Public Works Department both according to surface and general road classification.

TABLE 15.1

A. Roads according to surface

(Kilometres)

Concrete	*Tarred*	*Water bound macadam*	*Earth and Gravel*	*Total*
133.6	3759.2	5534.4	7755.2	17182.4

B. Roads according to general road classification

National Highways	*Provisional Highways*	*District roads*	*Village Roads*	*Total*
448.0	2140.8	6304.0	8289.6	17182.4

Besides the roads maintained by the Public Works Department, some roads are also maintained by the Forest Department, Panchayats, Municipalities and the Corporations of Trivandrum and Kozhikode.

The State has an average road mileage of 44.4 k. m. per 100 sq. KM. as against the all India average of 22.5. In the matter of surfaced roads the State's average is nearly three times that of the all India average. These averages might give the impression that Kerala is well served with sufficient roads. Though the present position is not very unsatisfactory, there are several inherent drawbacks which call for the immediate attention of the planners. The need for improving the present position in regard to the State's road transport is all the more important when we take into consideration certain special features such as the settlement patern, the inadequacy of railways and the rapid growth of population. The road mileage per unit of population is an important criterion for deciding the sufficiency of roads especially in the light of the special settlement pattern prevailing in Kerala. But it is found that the road mileage in Kerala in relation to population is below that in India.

In view of the inadequacy of the railways in Kerala, road development assumes greater importance. Most of the roads in the State at the time of the First Five Year Plan were substandard. During the first three Plans a total expenditure of about Rs. 21 crores was incurred on road development. The Fourth Plan provision (Provisional) is Rs. 15.0 crores which provides mainly for the improvement

of existing facilities and the provision of continuous unbroken trafficability of high-traffic routes like the National Highways, the State Highways and the district roads. Assuming the same rate of increase in the outlay in the Fourth Plan a provison of about Rs. 25 crores could be expected during the Fifth Plan period under this head of development. The Planning Commission has suggested that the following may be some of the more important considerations on which future road development plans might be evolved.

(i) In the Planning of road development National Highways, State Highways and District roads constitute a connected net work and have to be planned and developed as much.

(ii) Several of the National High Ways and State Highways need to be strengthened in respect of bridges, culverts, roadsurface etc. For the Fourth Plan, the strengthening and improvement of existing roads should have a high priority.

(iii) The requirements of transport arising from major industrial programmes should be taken fully into the schemes of priorities underlying the road development plans formulated in the Fourth Plan.

Road construction is acknowledged to be one of the most labour intensive fields of investments. The Planning Commission has estimated that continuing employment for 510 persons and employment in the construction stage for 5700 persons could be provided in road development for an investment of one crore of rupees. If a total investment of Rs. 40 crores is forthcoming in the coming Plan decade continuing employment for about 20000 persons and employment in construction stage for about 8900 persons could be provided under this sector.

Road Transport:

Apart from road construction, road transport services have a large employment potential. The nationalised sector constitutes about 20% of the total transport services in the state. The Kerala State Road Transport Corporation had on its rolls 7121 permanent and temporary employees as on 31-3-1966. The overall staff ratio works out to around 10 per vehicle schedule.

The total number of persons engaged in road transport services comes to 35000 assuming that nationalised sector forms 20% of the road transport sector. Employment in the nationalised sector increases by about 10% every year. Assuming this rate of rise, the total employment that could be generated in road transport services during the Fourth and Fifth Plan periods is 55000 in the private and public sectors together.

The Fourth Plan proposals provide for an outlay of Rs. 5 crores in the public sector. It is expected to add 500 buses during the period and to take over further new routes for their operation. At an employment rate of 10 per bus schedule a total additional employment for 5,000 persons would be generated during the Fourth Plan. Assuming that the investment in the public sector will be Rs. 10 crores in the Fifth Plan period, about 1,500 buses could be added during the Fourth and Fifth Plan periods together. At this rate of 10 per vehicle, the employment that could be generated in the public sector would be of the order of 15,000. This will form part of the total employment likely to be generated viz., 55,000.

Railways.

The total length of the State's railways is 892 kilometres. The mileage per-lakh of population (1961) in Kerala is only 3.4 or nearly 1/3 of that of All India (9.5 miles). The corresponding figures for the adjoining States of Mysore and Madras are higher at 6.2 and 5.6 miles respectively. The different sections of the State's railway system suffer from imbalance. In certain areas the traffic is so heavy that construction of parallel lines, to relieve pressure of traffic has become urgent. The need for creation of additional lines to meet the expanding passenger and goods traffic will be felt in the coming years especially in view of the rapid growth of industries envisaged. The area south of Ernakulam is served by the metre guage system and north by the broad guage system. The main railway route viz., Trivandrum-Kasargode line traverses mostly the coastal belt. A large geographical area to the east of this line, rich in cash crops and other products, is left unserved by the railway system.

The Government of India have provided a sum of Rs. 1110 crores in the Fourth Plan for the railway development programme. Assuming that about Rs. 3000 crores will be set apart for railways during the Fourth and Fifth Plans together and that about 4% of the investment will be made in Kerala, continuing employment for about 12,000 persons and employment in the construction stage for about 2,000 persons could be provided. The Planning Commission's norms of employment are adopted for the estimation of employment potential.

The Draft Fourth Plan for the State has suggested the following items of work to be taken up during the plan period:

(i) Conversion of the existing Ernakulam-Quilon-Trivandrum line into broad guage.

(ii) Doubling the existing railway line from Cochin to Coimbatore.

(iii) Construction of a link line from Kottayam to Podinaikannur viz., Peermade and Kumili.

(iv) Construction of a link line from Tellicherry to Mysore.

(v) Construction of a link line from Kayamkulam to Ernakulam via. Alleppey.

(vi) Construction of a new railway line between Trivandrum and Cape Comorin.

(vii) Doubling of the existing railway line from Shornur to Mangalore.

(viii) Construction of a new line from Kuttipuram to Ernakulam via., Guruvayoor and Cranganore and

(ix) Melattur—Feroke line.

Inland Water Transport:

The State has an almost uninterrupted system of navigable backwaters, canals and rivers serving as a cheap means of transport. There are about 1855 Km. of water-ways in the State, which is roughly 20% of the entire inland water transport system of the country as a whole. It is estimated that the total goods traffic carried by the inland water transport system is of the order of 23 lakh tonnes. It is expected that an amount of Rs. 2 crores would be spent on the development of inland water transport, particularly on construction and improvement of canals during the Fourth Five Year Plan.

Employment that would be directly created by the investment under this programme is estimated by the P. W. Department as follows:—

Technical personnel	Numbers	94
Administrative	,,	50
Skilled workers	,,	321
Unskilled workers	,,	1285
Total		1740

Assuming an investment of Rs. 3 crores in the Fifth Plan the total employment generation in the coming decade would be of the order of 5,400.

The outlay of Rs. 72 lakhs in the Fourth Plan for the development of ports at Calicut and Neendakara will help to generate a total employment for 850 persons (170 skilled and 680 unskilled)

according to the Department. Assuming that about Rs. 1 crore will be provided in the Fifth Plan under this head of development, additional employment for about 2000 persons could be created during the Fourth and Fifth Plan periods.

Civil Aviation:

The Government of India in their Draft Fourth Plan have provided a sum of Rs. 118 crores for the development of air transport. It is necessary to have a modern airport capable of receiving jet airlines at Cochin. It is also necessary to develop Trivandrum airport providing facilities for jets to land. Calicut is an important commercial centre and the need for direct air link for Calicut with other points in the country has been keenly felt. Assuming that a total provisions of Rs. 300 crores would be made at the all India level during the Fourth and Fifth Plan and that Kerala could get about 4% of this investment, additional employment for about 6500 persons during the construction stage and for about 4000 persons during the continuing stage could be provided.

Tourism:

The immense potentialities for the development of tourism have been realised only in recent years. An amount of Rs. 1 crore is assigned for this sector in the State's Fourth Plan. In view of the great potentialities for tourist industry in Kerala, this sector has to be given high priority in the coming decade. Larger investment in the sector will have its favourable impact on the production and design of handicrafts in the State. An outlay of at least Rs. 4 crores could be made in the Fifth Plan period for tourism. Assuming a total investment of Rs. 5 crores in the State sector for this head of development, employment for about 2,000 persons could be provided during the Fourth and Fifth Plan periods together.

To sum up, the Plan decade 1966-76 will provide additional employment of a continuing nature to about 1.18 lakh persons in the transport sector, as follows:—

	Total Employment potential
Road development	28900
Road Transport Services	55000
Railways	14000
Inland water transport	5400
Minor ports	2000
Civil Aviation	10500
Tourism	2000
Total	117800

CHAPTER XVI

TRADE AND DISTRIBUTION

Activities under trade and distribution are governed by the development in the primary and secondary sectors. Though the primary and secondary sectors have not expanded considerably the number of persons dependent on trade and distribution activities has shown a phenomenal increase over the last fifteen years. Service occupations, essential as well as non-essential ones, have expanded in Kerala. Traders, merchants, middlemen etc., have increasingly come into the picture, controlling the market as well as raw materials.

Kerala contributes substantially to India's export trade. The total value of goods exported from the ports of Kerala to the other ports of the world during 1965-66 was Rs. 91,930 crores. This forms about 12% of the overall foreign exchange earnings of India. The major export commodities of Kerala are cardamom, cashew, coffee, coir and coir products, prawns, ginger, lemongrass oil, pepper and tea. Three major items which contribute about 75% of total foreign exchange earnings of Kerala are tea, cashewnuts and coir and coir products.

The proportion of urban population in Kerala has shown a rising trend from 7.11% of the total population in 1901 to 15.11% in 1961. From 1901 to 1961 the urban population in the State has increased by 461.97%. This trend in urbanisation has influenced the growth of trade and distribution in Kerala. A classification of 92 towns in Kerala on a functional basis was made in the 1961 census. It shows that 1.09% come under trade and commercial towns, 40.22% under manufacturing towns, 2.17% under transport and communication towns and 56.52% under service towns.

Table 16.1 shows the distribution of 1000 persons among industrial categories and non-workers in India and Southern States.

TABLE 16.1

	Total	*As cultivator*	*As Agricultural labourer*	*Mining, Quarrying, Livestock, Forestry, Fishing, Hunting*	*At household*	*Manufacturing other than household*	*Construction*	*Trade & Commerce*	*Transport storage & communication*	*In other services*	*Non-workers*
Andhra	1000	208	148	16	51	13	6	22	7	48	481
Kerala	1000	70	58	29	29	31	4	19	9	84	667
Madras	1000	192	84	13	36	25	6	22	8	70	544
Mysore	1000	246	75	14	30	18	8	17	4	43	545
India	1000	227	72	12	27	18	5	17	7	45	570

The workforce in Trade and Commerce has recorded an increase of 11.31 per cent during 1951-61. The export and import figures indicate that from 1951-52 to 1959-60 there has been an increase of 23.13% in the value of exports and 39.63% in the value of imports. This indicates a progressive trend in trade and Commerce which perhaps accounts for a decennial percentage increase in workers under Trade and Commerce during 1951-61.

Table 16.2 gives the distribution of the working force (with particular reference to Trade and Commerce) in India, Kerala and the Districts in Kerala.

TABLE 16.2

	Total	*Primary Sector*	*Secondary Sector*	*Trade & Commerce*	*Others in tertiary sector*
India	188,675,000	135,445,960	23,204,798	7,653,577	22,371,171
Kerala	56,90,333	2,621,135	1,120,304	321,933	1,566,961
Cannanore	629,719	299,729	116,146	37,870	175,974
Kozhikode	801,706	328,615	130,483	53,173	289,435
Palghat	689,406	389,017	99,536	28,443	172,410
Trichur	544,439	210,936	114,904	33,377	185,222
Ernakulam	617,283	250,080	132,048	39,483	195,672
Kottayam	565,115	339,614	72,431	28,785	124,285
Alleppey	610,424	260,558	168,213	36,434	145,219
Quilon	631,350	320,640	174,854	28,934	106,922
Trivandrum	540,891	221,946	111,689	35,434	171,822

The highest percentage of workers in the Trade and Commerce category is in the Kozhikode district. The large number of commercial and trading establishments in the district accounts for this.

The total number of persons engaged in Trade and Commerce, according to the present survey on employment, was 4.59 lakhs in 1965. This forms 7.6% of the labour force in 1965. The labour force is estimated to be of the order 77.6 lakhs in 1976. Assuming

that the same proportion (i.e., 7.6%) of the labour force will be in the Trade and Commerce sector in 1976 also, the total number of persons in this sector will be 5.90 lakhs. The net addition to employment in this sector during the decade 1966-76 will be 1.31 lakhs. A good proportion of the people engaged in the trade and commerce sector do not earn incomes adequate for their livelihood. This condition is brought about by the poor prospects of the new entrants in the labour force to get employment in the primary and secondary sector do not earn incomes adequate for their livelihood. This commerce sector envisaged in the Fourth and Fifth Plan periods indicate a relatively rapid growth. But the increasing tempo of developmental activities contemplated in the coming decade justify this estimate. There has been an increase in the number of co-operative societies, public and private companies and the like in the recent past. This trend is likely to continue during the Fourth and Fifth Plan periods.

CHAPTER XVII

EDUCATION AND TRAINING

Education as an investment in human capital has a major role in economic growth. Manpower trained in various skills constitute the driving force accelerating economic development. In the matter of education Kerala has a high place among the different states of the Indian Union. It leads the other states in point of literacy. The number of literate and educated persons in Kerala per 1000 was 468 in 1961 as against the all India average of 240. In 1966, according to official estimates, the number of literate and educated persons in Kerala had risen to 509 per 1000. Nearly 1|3 of the total revenue of the State is expended on education. About 90% of this expenditure is ear-marked for general education and 10% for technical education.

The progress in the number of schools established, the enroiment of children at various levels, the number of teachers employed and the growth of literacy in the first three Plans is given in Table 17.1. The heavy doses of expenditure on education is the main reason for the steep push in enrolment.

TABLE 17.1

Item	1950-51	1956	1961	1966
(1)	(2)	(3)	(4)	(5)
No. of Schools				
Lower Primary Schools	4023	4267	6672	6918
Upper Primary Schools	694	922	1917	2456
Secondary Schools	529	614	883	1151
Enrolment of Children	(Lakhs)	(Lakhs)	(Lakhs)	(Lakhs)
Lower Primary Schools	11.77	14.86	24.32	28.99
Upper Primary Schools	2.08	3.09	6.61	9.48
Secondary Schools	1.09	1.72	1.77	3.90
No. of Teachers employed				
Lower Primary Schools	..	33745	80055	98000
Upper do.				
Secondary Schools	..	16273	28033	21000
	40.7	43. 7	46.8	50.9

In the first three plans, notable progress in the matter of enrolment of students in the different stages of education was achieved. Not much attention was paid to the improvement in quality in the First and Second Plans. A beginning in this direction was made only during the Third Plan period. The Fourth Plan envisages a further expansion of educational efforts at all levels with increased emphasis on quality. The targets laid in the draft outline of the Fourth Five Year Plan (All India) have already been achieved by the State. As against an envisaged enrolment of 92% in the age group 6 to 11 in the elementary classes, more children than in this age group attended school in Kerala at the end of the III Plan. Similarly the Planning Commission envisages 47.5% enrolment for the age group 11 to 14. The enrolment in Kerala of this age group is 68% at the end of the III Plan. The target for the age group 14 to 17 set by the Planning Commission is 22% while nearly 32% of that age group are in schools in Kerala State. The Planning Commission also envisages an improvement in the enrolment of girls in order to narrow the gap between girls' and boys' education. Here also the progress is substantial in Kerala. Nearly 42 to 45% of the total enrolment at different stages of school education will relate to girls. In regard to teacher training, 90% of the primary school teachers and 85% of the teachers in the Secondary schools are trained. The growth in the number of trained teachers has been impressive except in respect of language teachers in respect of whom severe shortages still exist.

The main effort in the IV Plan will be to provide for the inevitable expansion in enrolment taking into consideration the fact that the public of Kerala have become education-minded and also keeping in view the constitutional requirement for provision of universal primary education for the age group 6 to 14. As against the Planning Commission's target of enrolment of 92% for the age group 6 to 11, 42% for the age group 11 to 14, and 22% for the age group 14 to 17, the targets aimed at by the State Government are 110% for the age group 6 to 11, 75% of the age group 11 to 14 and 35% of the age group 14 to 17. The IV and V Plan (purely provisional) targets are provided in table 17.2.

TABLE 17.2

General Education	*Achievement at the end of the III Plan*	*IV Plan target*	*V Plan target*
(1)	(2)	(3)	(4)
Emolment (in lakhs)			
Agre-group 6—11			
(i) Classes I—V			
Total	28.29	32.99	36.99
Girls	13.43	15.43	17.43
(ii) Classes VI—VIII (11—14)			
Total	9.48	13.22	16.96
Girls	4.17	6.10	8.03
(iii) Classes IX—XI (14—17)			
Total	3.90	5.30	6.70
Girls	1.71	2.35	3.00
Teachers (Nos.)			
(i) In elementary Schools:			
No.	17150	16000	20000
% trained	98	98	98
(ii) In Secondary Schools:			
No.	5000	6000	7500
% trained	80	85	90

The outlay proposed on General Education will be approximately of the order of Rs. 22 crores and Rs. 30 crores during the IV and V Plans respectively.

There has been a simultaneous expansion of University education during the first three plans. In 1961, there were 45 colleges for General Education (Arts, Science and Commerce) with a total strength of 36994 of whom 15331 were studying in the Pre-University class, 20637 in Degree Classes and 1046 in Post-Graduate classes.

Of these students in the Degree Classes, 13963, were students of science. At the Post-graduate stage 431 students were science students. In 1966, the total number of Colleges for General Education rose to 100. Out of the additional colleges started in the Third Plan period, 50 colleges were junior Colleges imparting instruction for the pre-degree course of 2 years' duration. The total strength of college students also rose to 102850 (67000 at the Pre-degree stage, 33000 at Degree Stage and 2850 at Post-graduate Stage). Of the above, the number of Science students at pre-degree, Degree and at Post-graduate stages were 45,000, 19,000 and 1,200 respectively.

At the current rates of enrolment it would not be unrealistic to infer that the position in 1971 and 1976 will be as shown in Table 17.3.

TABLE 17.3

Year	*No. of colleges*	*Total No. of Students*	*Students in Pre-Degree or its equivalent*	*Students in Degree classes*	*Students in Post-graduate classes*	*Students of Science in Degree Classes*	*Students of Science in Post-graduate Classes*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1971	150	162150	117000	40500	4650	24000	1950
1976	200	180000	125600	48000	400	29000	2700

In the field to technical education, one comes across the paradox of shortages and surpluses. While in certain sectors, there are more jobs than men available; in others, the familiar problem of surplus hands persists. The main effort under development of technical education in the IV and V Plans will be to correct the existing imbalance in the system. Stress must be laid on improving the quality was well. The number of technical institutions as at the end of the First, Second and Third Plans are as furnished in Table 17.4.

TABLE 17.4

Institution	1956	1961	1966
Engineering Colleges	1 Government	2 Government 2 Private } 4	2 Government 3 Private 1 Regional } 6
Polytechnics	4	12	17
Junior Technical Schools	..	9	20

The intake and outturn of engineering personnel are given in Table 17.5.

TABLE 17.5

Year	Intake			Outturn		
	Engineering Colleges	Polytechnic	Junior Technical Schools	Engineering colleges	Polytechnic	Junior Technical Schools
1961	570	1578	540	513	1262	513
1966	1160	2478	1200	828	1702	1140
1971	1986	3960	1260	1588	3380	1197
1976	*2636*	*5460*	*1350*	*2338*	*5130*	*1250*

The outlay on Technical education contemplated under the IV Plan is Rs. 600 lakhs and during the V Plan the probable outlay may be placed at Rs. 1,000 lakhs.

The present survey revealed that of all those who possessed educational qualifications of the level of matriculation and above, 56.97% were in the labour force. The corresponding percentage among those who were below Matric was 30.84%. The distribution of the labour force in 1965 according to age-group and the educational standard is given in the table 17.6.

TABLE 17.6

Labour force in 1965 by Age and Education

Age Group	Persons in Labour Force ('000)		
	Below matric	Matric and above	Total
(1)	(2)	(3)	(4)
0—14	103	..	103
15—19	649	52	701
20—24	731	125	856
25—29	693	103	201
30—34	654	79	733
35—39	706	39	745
40—59	1684	75	1759
60 and above	308	465	317
Total	5528	487	6015

It is assumed that all persons aged 60 and above in 1965, will cease to be in the labour force by 1971. Taking into consideration the current standard-wise strength in schools and the rates of wastages and failures, it is estimated that about 6 lakhs of matriculates will come out of the schools during the period 1965-71; about 56.97% of them will be in the labour force. The above assumption is based on the premise viz., that a higher proportion can normally enter the labour force only if plenty of opening present themselves or if a change in job attitudes occurs. Neither may take place in such a short period. Thus in 1971, the total number of persons in the labour force with educational attainments of matriculation and above will be about 820,000.

In 1971, there will be 317,000 in the labour force aged 60 and above. It is assumed that 3.5% of these will be matriculates. (The corresponding figure in 1965 was 2.84%). After a period of 5 years, the percentage of matriculates and above is likely to increase. Thus nearly 11,000 persons in the labour force in 1971 who were matriculates and above, cease to be in the labour force by 1976. During the period 1971-76 it is estimated that about 6.5 lakhs of matriculates will emerge from schools, of whom 56.97% enter the labour force. The position will be as shown in Table 17.7.

TABLE 17.7

Labour force in 1971 & 1976 by Education

Educational standard	*Number of persons in the labour force ('000) in the year*		
	1965	1971	1976
(1)	(2)	(3)	(4)
Below matric	5528	6090	6570
Matric & above	487	820	1188
Total	6015	6910	7758

The overall position in the matter of additional employment to be generated in the coming decade will be as follows:—

	Investment (Rs. in crores)	*Employment**
IV Plan	28	35420
V Plan	40	50600
Total	68	86020

* Inclusive of additional construction employment.

Training:

The details relating to the training facilities for the important technical, professional and craftsmen training programmes in the State are furnished in Table 17.8. The list is not exhaustive. It does not cover courses of training conducted for persons after recruitment by the Department or employer. Only courses the completion of which enable the persons concerned to improve his qualifications and technical attainment so as to make him eligible for a better job in the labour market or to enable him to realise better prospects in service are considered here. Inservice training of Departmental staff is therefore excluded.

TABLE 17.8

Training facilities in Kerala

Name of course	*Duration*	*Intake* 1966	1971	*Minimum qualification for admission*
(1)	(2)	(3)	(4)	(5)
1. B. Sc. Agriculture	3 years	80	80	Two year Pre-Degree with Physics, Chemistry and Biology & Optional subjects.
2. M. Sc. do.	2 do.	30	30	B. Sc. (Agriculture) or B. Sc. with atleast 2nd Class.
3. B. V. Sc.	4 do.	50	50	Two year Pre-Degree with Physics, Chemistry and Biology as Optional subjects.
4. B.Sc. (Engineering)	3 or 5 do.	1330	1840	Pre-Degree or B.Sc.
5. M. Sc. do.	2 do.	50	146	B. Sc. (Engineering)
6. Diploma in Engineering	3 do.	1700	3960	S. S. L. C.
7. M.B.B.S.	5½ do.	505	600	Pre-Degree or B.Sc.
8. B. D. S.	4 do.	20	20	Pre-degree or B. Sc.
9. M.D. (General Medicine)	2 years for those who have undergone senior house surgery 3 years for others	32	32	M. B. B. S. and one Senior house surgoncy& 3 years active practice.
10. M. S. (General (Surgery)	do.	20	20	do.
11. General nurses	3 years	370	370	S.S.L.C.
12. Auxilary Nurse/Midwives	2 do.	385	385	S.S.L.C.
13. Pharmacies	2 do.	60	60	S.S.L.C.
14. Laboratory technicians	1 year	60	60	S.S.L.C.
15. Radiographers and X-ray technicians	2 years	20	20	S.S.L.C.

(1)		(2)	(3)	(4)	(5)
16.	Health Inspectors	1 year	180	180	S.S.L.C.
17.	Dental mechanic	1 year	10	10	S.S.L.C.
18.	Dental hygienists	1 year	20	20	S.S.L.C.
19.	Opticians and befracts dentists	2 years	15	15	S.S.L.C.
20.	B.A.M.	5 years	30	30	Pre-Degree
21.	D.A.M.	4 years 6 months	100	100	S.S.L.C.
22.	Elements of navigation engines etc.	9 months	40	40	Fishermen in the age group 18—35, with 5 years experience and education upto 5th standard.
23.	Master fishermen course	15 do.	40	40	S.S.L.C.
24.	Engine drivers course	15 do.	40	40	do.
25.	Gear Technicians course	9 do.	20	20	do.
26.	Boat building Firemen course	15 do.	20	20	do.
27.	Craftsman Training Course	1 year or 2 years	7668	8728	do.
28.	Junior Technical Training course	3 do.	1200	1200	VIII Standard
29.	B. Ed.	1 year	2400	2400	B. A. or B. Sc.
30.	Teachers Training Certificate Course	1 do.	120	120	S.S.L.C.
31.	Nursery Teachers Training Course	1 do.	120	120	do.
32.	Physical Educaton *Training*	1 do.	200	200	do.

Besides the courses of training enumerated above, there are a few more courses, the intake and outturn of which are not accurately known. Some of them are courses for which a candidate can appear privately and in part. The following are the courses which come under the group:

1. M. V. Sc. (2 years)
2. A. M. I. E. (2 years)
3. Part-time Diploma course in Engineering (4 years)
4. B. Sc. (Nursing)
5. Diploma Course in Physical Education.

The intake capacity in 1971 is calculated on the basis of the indications given in the Draft outline of the Fourth Five Year Plan of Kerala and also after enquiries with the concerned Departments about proposed expansion. Where such information could not be obtained, the intake in 1966 is assumed to continue.

The expected outturn from these courses during the IV and V Plan periods has been worked out and presented in statement II. In working out the outturn, suitable ratios for wastages and failures

have been assumed. These ratios were worked out after examining the past trends in yearly intake and out-turn of each of the courses covered here.

STATEMENT II

Out-turn of selected categories of Techincal personnel

	Subject/Course	*Out-turn during*	
		1966-1971	1971-1976
	(1)	(2)	(3)
1.	B. Sc. (Agriculture)	360	360
2.	M. Sc. (Agriculture)	135	135
3.	B. V. Sc.	225	225
4.	B. Sc. (Engineering)	6135	7974
5.	M. Sc. (Engineering)	597	700
6.	Diploma in Engineering	11214	14970
7.	M. B. B. S.	1977	2480
8.	D. D. S.	90	90
9.	M. D. (General medicine)	145	145
10.	M. S. (General Surgery)	90	90
11.	General Nurses	1665	1665
12.	Auxiliary Nurse/Midwives	1730	1730
13.	Pharmacists	270	270
14.	Laboratory Technicians	270	270
15.	Radiographers/X-ray Technicians	90	90
16.	Health Inspectors	810	810
17.	Dental Mechanics	45	45
18.	Dental Hygienists	90	90
19.	Opticians and refractionists	65	65
20.	B. A. M.	135	135
21.	D. A. M.	450	450
22.	Elements of navigation marine enquiries etc.	180	180
23.	Master fishermen course	135	135
24.	Engins Drivers course	135	135
25.	Geer building course	90	90
26.	Boat building course	65	65
27.	Craftsman training course	36156	39280
28.	Junior Technical Training course	3000	3000
29.	B. Ed.	11400	11400
30.	Teachers Training Certificate	36010	36010
31.	Nursery Teachers Training	540	540
32.	Physical Education Training	900	900

CHAPTER XVIII

OTHER SOCIAL SERVICES

The structure, pattern and future potential of employment in such important and vital sectors as Medical and Public Health, labour and labour walfare and housing and social walfare are examined in this chapter. The scope for employment potential in this scheme during the next decade is restricted and employment additionally created will not be adequate to make any significant impact on the massive unemployment problem in the State.

In comparison with the rest of the country, the people of Kerala enjoy better standards of health. Death rate in Kerala is the lowest in India and expectation of life at birth, the highest. Special emphasis was given in the five year plans both for the provision and development of medical and health facilities. Four Medical Colleges with a total intake capacity of 505 are today functioning in the State. Per capita expenditure on medical services is very high in Kerala. In 1965-66, the per capita Government expenditure on Health Services was Rs. 4.49. Barring Jammu and Kashmir which spent Rs. 6.82 per head of the population this is the highest among Indian States. But if, allowance is made for the large number of private hospitals and practioners of allopathic, ayurvedic and homoeopathic systems, Kerala would be formost amongst the States in the matter of medical facilities.

The Health Survey and Planning Committee of the Government of India (1961) suggested a norm of one bed per thousand of population for India. Kerala was ahead of other States in this regard even in 1961. The Table 18.1 gives the number of beds per thousand population in the various States of the Indian Union.

TABLE 18.1

State	*No. of beds per* 1000 *population*
Andhra Pradesh	0.54
Assam	0.29
Bihar	0.22
Gujarat	0.39
Jammu & Kashmir	N.A.
Kerala	0.83
Madhya Pradesh	0.38
Madras	0.71
Maharashtra	0.37
Mysore	0.58
Orissa	0.23
Punjab	0.65
Rajasthan	0.47
Uttar Pradesh	0.24
West Bengal	0.79

During the Third Plan period much headway was made towards attainment of the objective of one bed per 1000 of population. In 1965-66 there was 0.9 bed for every 1000 population as against the all India figure of 0.49. The expansion envisaged in the Fourth Plan will help to increase this ratio and the likely expansion during the Fifth and Sixth Plans may help to even to better the norm of one bed per 1000 population.

In 1961 there were about 1500 doctors in the State. If the out-turn of medical graduates from the Medical Colleges in 1961-66 is added to this figure after making adjustments for retirements, emigration etc., there would be about 2600 doctors in the State. This seems to be a reasonable estimate of the number of doctors in Kerala in 1966. An estimate of the availability of doctors in the State in 1971 and 1976 is given in Table 18.2. The number of doctors available annually, beginning from 1961 and ending at 1980 was worked out and the estimated out-turn of each year was added to the initial stock and a deduction of 1% was made to take account of depletion of stock due to death, retirement etc. The wastage in intake was reckoned to be 10%.

TABLE 18.2

Year	*Population (lakhs)*	*Number of doctors*	*Doctor population ratio*
1966	191.37	2600	1 : 7400
1971	217.01	4500	1 : 4800
1976	244.22	6800	1 : 3600

On the basis of the norm of a doctor for every 3000 or 3500 of population by 1971 as recommended by the Mudaliar Committee, there are not enough medical personnel in Kerala. Improvements are called for in the quality of service rendered to the patients. The personnel employed in medical services are generally over-worked. At the current rate of out-turn, the norms as regards qualified doctors will be achieved by 1976 (i. e., without making any additional efforts). Just as in other fields of education, there has been a deterioration in the quality of medical education. Presumably the intake is more than what the available equipment and staff can cope with A celiberate drive towards the diffusion of specialists into rural and relatively neglected areas of the State has to be fostered by the State.

The position as regards dental surgeons is very unsatisfactory. In September 1966, there were only 99 dental surgeon in the register of the Medical Council, besides 279 dentists without any approved training or recognised qualifications. There is only one dental college in the State with a sanctioned in take 30 seats of which 10 are reserved for students from other States. Out of the 20 students from Kerala admitted to this course, 18 on an average may be expected to complete the course every year. Thus during a plan period of five years, only 90 graduates in Dentistry will be turned out from this institution. The Bhore Committee (1946) laid down a target of 1 dental surgeon for 4000 of population by 1971. But at present in Kerala there is only one dental surgeon for nearly 2 lakhs of population, which means that the Bhore Committee target could be reached only if there are 6700 dental surgeons in 1981. As against this the availability will be only about 335 dental surgeons. Perhaps this norm has as its basis the standards prevailing in advanced countries. It is impossible to attain the recommended norm. An alternative norm adopted by the Man-power planning unit of the Bureau of Economics & Statistics is given below:

Year	*Dental surgeon population ratio*
1971	1 : 60000
1976	1 : 50000

On the basis of the above norm, the availability at the existing rate of out-turn and the deficit in 1971 and 1976 are given in Table 18.3.

TABLE 18.3

Item	1975	1976
Total requirements	360	490
Net availability	181	260
Deficit	179	230

Thus even for achieving these modest norms, 230 more dental surgeons will have to be turned out during the next fifteen years. The deficit of 179, anticipated in 1971, cannot be made good by stepping up the intake of the Dental College because the students admitted now will not be complete the course by 1971. The position can be improved to the certain extent by recruitment from outside and doubling the present rate of admission.

Among the other categories of medical personnel, a paradox occurs in the matter of employment of nurses. Though nurses from Kerala are in service in almost all the major hospitals in India, a shortage is experienced in the State. At the end of March, 1966, there were only 1846 general nurses. This has to be viewed in the background of the suggested norm of one nurse|midwife for every 5000 population by 1971 and one nurse|midwife for every 2000 population by 1981. The requirements of nurse|midwives according to these norms, the availability and the deficit are shown in the following statement for the years 1971, 1976.

Item	1971	1976
Requirements	4350	6978
Availability	3980	6744
Deficit	370	234

From with the expansion proposed during the Fourth Plan period training of 1250 additional nurses, it can be seen that there is a gap between requirements and availability. This is serious and requires thoughtful action.

However the position is a reserved in the case of auxiliary nurse|midwives, where a surplus is anticipated by 1976. Out of a total requirement of 4900 auxiliary nurse midwives (at the rate of 1 for every 5000 population in 1976) there will be 5063 such persons available. Their present strength is placed at 1991. Thus planning to avoid future wastages needs to be taken up forthwith. It would be worthwhile to examine the possibility of converting some of the personnel in this category into general nurses. In the categories of pharmacists and laboratory technicians a shortage is anticipated. This deficit could be made good to a considerable extent by increasing the intake capacity. An expansion of the existing training facilities is called for. The requirements, availability and deficit of pharmacists and laboratory technicians are shown in Table 18.4.

TABLE 18.4

Item	*Pharmacists*		*Laboratory Technicia s*	
	1971	1976	1971	1976
Total requirements	1500	2267	540	815
Net availability	1176	1380	461	700
Deficit	324	887	79	115

The present strength of pharmacists is estimated at 1070 which however excludes those who do not possess the prescribed qualifications out who practise pharmacy. The laboratory technicians numbered 210 in 1966. This is based on the information received from the Directorate of Health Services and the Medical Colleges. As regards employment of radiographers and X-ray technicians the figures shown in Table 18.5 will convey an idea of the position in 1971 and 1976. Thus by 1976, a normal surplus will be achieved. There are about 70 radiographers in the State at present.

TABLE 18.5

Items	1971	1976
Total requirements	217	244
Net availability	163	247
Surplus + Deficit —	(—)49	(+)3

The preceeding analysis however does not tape into consideration the migration factor primarily owing to the paucity of information on this aspect.

Thus the employment situation in the above sector during 1971 and 1976 will be as shown in Table 18.6.

TABLE 18.6

Category	1966	1971	1976
1. Doctors	2600	4500	6800
2. Dental surgeons*	99	181	260
3. General Nurses	1846	3980	6744
4. Auxiliary midwives	1991	3555	5063
5. Pharmacists**	1070	1176	1380
6. Laboratory Technicians	210	461	700
7. Radiographer & X-ray technicians	70	168	247
Total	7886	14021	21194

* Only qualified Dentists

** Only qualified pharmacists

With regard to the other branches of social services, it is only in the sphere of housing and urban development, that some not-worthy expansion of employment opportunities during the Fourth and Fifth Plan periods could be visualised. The outlays on this important item of development during the I, II and III Plans are given below:—

I Plan	Rs. 36.06 lakhs
II Plan	„ 214.33 „
III Plan	„ 262.58 „

On this programme, the outlay during the IV and V Plans can be placed at Rs. 350 and Rs. 500 lakhs respectively. It would not be unwise to assume that 75% of the expenditure budgeted for would go for construction purposes. Thus using the technical co-efficients provided by the Planning Commission in estimating the employment content within the States, the additional construction employment during the IV and V Plans could be placed at approximately 6875 and 11300. This of course, excludes the employment generated in the private sector, which is bound to be substantial. No precise estimates are possible in view of the lack of data. The problem of housing is one of great magnitude and any real and satisfactory solution to the problem would require very large investments. With the meagre resources available now, the approach has to be to utilise the resources to the maximum extent necessary in this sectors so as to quicken one of economic development. The following programmes have been suggested.

(a) village housing projets
(b) low income group housing scheme
(c) housing for economically weaker sections
(d) co-operative housing
(e) housing scheme for employees of local bodies
(f) subsidised industrial housing scheme
(g) housing board
(h) plantation labour housing scheme
(i) housing scheme for state Government employees
(j) settlement scheme
(k) poor housing
(l) slum clearance
(m) town improvement schemes
(n) city development schemes including town planning,

Development programmes for the welfare of scheduled tribes, scheduled castes and other backward classes with a view to bringing them to the level of the rest of the community are a vital and integral part of the five year plans. According to the 1961 census, the total population of Scheduled Tribes and Scheduled Castes in the State was 2.06 lakhs and 14.22 lakhs i.e., 1.26% and 8.49% of the population of Kerala. Even though Kerala has a very small percentage of the total scheduled castes and scheduled tribes of India, viz., 2.23 and 0.71 respectively, the economic standard of these sections of the community are in no way better than their counterparts in other States. . The schemes implemented centre round educational and economic uplift of the backward classes.

An amount of Rs. 576.65 lakhs was spent during the first three plan on plans for programmes relating to the welfare of backward classes

I Plan	Rs. 64.90 lakhs
II Plan	,, 257.64 ,,
III Plan	,, 254.11 ,,
Total	576.65 lakhs

The outlay on these programmes in the IV and V Plans can be placed at Rs. 4.00 and 4.50 crores respectively. Using the norm laid down by the Planning Commission, it appears that continuing employment can be provided for 960 persons in the IV Plan and 1080 in the V Plan.

Social welfare programmes undertaken during the first three Plans seek to cover such sections of the Community as need special care and protection. These services consist in an organised and sustained effort for the education, welfare and rehabilitation of certain sections of the community who suffer from social and physical handicaps. These sections include juvenile delinquents, destitute children, the physically handicapped, beggars, prisoners, habitual offenders and fallen women. Welfare activities have been undertaken mainly by voluntary agencies through assistance—chiefly financial provided by Government. The programme in the IV Plan is generally to continue the social welfare schemes already taken up in the previous plan periods. The employment potential in social welfare activities can be stated in very precise terms. However from the suggested norm of 240 persons of continuing employment for every Rs. one crore expended (as stipulated by the Planning Commission) it can be safely said that social welfare schemes in the IV Plan (Rs. 50 lakhs) and V Plan (Rs. 65 lakhs) will generate continuing employment for 120 and 160 persons respectively.

To meet the growing demand for skilled workers and foremen in different trades, a comprehensive craftsmen training scheme was formulated during the Second Plan period. While the Engineering Colleges and Polytechnics turn out 1 degree and diploma holders with highest supervisory skills and technical competence, the industrial training institutions produce the rank and file of skilled workers, who actually run the machines and are engaged in the process of production on the shop floor. The trainees in the I. T. Is. receive intensive institutional training for 18 months, and the successful candidates are given inplant training for a further period of six months to qualify themselves for the award of National Trade Certificates issued by the National Council for Training in Vocational trades. At the end of the Third Plan there were 9 I. T. Is. and 1 I. T. C. having a total intake capacity of 5464 trainees in 23 engineering trades. The total number of persons trained in the institutes by the end of the Third Plan comes to 13865.

The physical target for the IV Plan period is 4196 additional seats by expanding the capacity of the existing 10 training institutes and by opening 6 new training institutes in a phased manner. An outlay of Rs. 3 crores has been proposed in this branch of activity in the Fourth Plan. On current performance, it can be roughly indicated that in the V Plan by stepping up the annual intake capacity of the training institution to 1000, training facilities can be increased by an additional 5000. An investment of the order of 5 crores would be necessary during the Fifth Plan.

Thus the employment potential of the programmes outlined above is about 22000 during the IV Plan and 34000 during the Fifth Plan. These figures have a bearing only on the investment in the state sector. In the matter of investment in the Central and private sectors, it has been estimated that continuous employment of the order of 6000 jobs will be provided during the IV Plan in the Social Service heads other than education. In the same line of approach is to be pursued during the V Plan, the continuous employment generated as a result of private and central sector investment will be of the order of 14000 in the Fifth Plan period. Thus the employment potential of a continuous nature in the Fourth and Fifth Plans together is of the order of 76000. Taking into consideration employment in the cnstruction stage also the aggregate potential will be around 1 lakh in the social service sector (apart from education).

CHAPTER XIX

EMPLOYMENT OPPORTUNITIES OUTSIDE KERALA

Kerala State has certain special features which make it necessary to consider encouragement of migration outside the state as one of the important measures for increasing employment opportunities for the people of the State. It has the highest density of population among the states, viz., 435 persons per square kilometre.

The cropping pattern also is different as compared to other states. In Kerala perennial crops which require very little labour for basic operations such as preparation of seed bed, sowing etc., dominate. The agricultural labourers form a high proportion of the rural population and the number of days of employment of the agricultural labourer is the lowest in India. Owing to the progressive policy of the Governments in the past, the rate of literacy is very high in the state. Modern industries have not taken root in the state and the industrial work force is mainly engaged in traditional enterprises like cashew, coir, tiles and handloom. It will take considerable effort and time for developing the industrial sector so as to absorb more and more de-labour force into it. Owing to these factors, a portion of the labour force in Kerala State have necessarily to depend upon employment outside the state atleast for the time being—past experience also shows that mobility and skill exist among he people of Kerala to grab jobs available outside the state.

Data relating to migration upto 1965 are presented in Table 19.1 below:—

TABLE 19.1

Year	*Number of*	
	In-migrants	*Out-migrants*
1901—11	1,900	8,000
1911—21	23,000	4,000
1921—31	92,000	24,000
1931—41	38,000	43,000
1941—51	53,000	1,43,000
1951—61	1,08,000	3,93,000

It will be seen that till 1931 in-migration into Kerala exceeded out-migration by a large margin. Since 1931, this trend has been reversed. According to the 1961 Census the total number of Malayalam speaking population outside Kerala was about 9 lakhs. The present survey indicates that 5.3 lakh persons have migrated from Kerala to other parts of India and to countries outside India. Of these 4.3 lakhs are reported to have left in search of employment. From the 1961 Census, the following States (vide Table 19.2) account for a significant number of Malayalam speaking population outside Kerala.

TABLE 19.2

Sl. No.	*State*	*No. of Persons*
1	Andhra Pradesh	23,348
2	Madhya Pradesh	19,816
3	Madras	3,99,206
4	Maharashtra	90,459
5	Mysore	2,90,586
	Sub Total	8,23,415
6	All other States (excluding Laccadive & Minicoy Islands and Pondicherry)	65,315
	Total Malayalam speaking population outside Kerala	
	Total	8,88,730

One explanation for Madras and Mysore having a large Malayalam speaking population could be that some areas which were part of the pre-reorganised state of Travancore-Cochin have been merged with these states (e.g., the Kanya Kumari District). The other explanation is the proximity of the Kerala State to these bordering districts (vide Table 19.3).

TABLE 19.3

District	*No. of Malayalam speaking people in lakhs*
Kanya Kumari District	1.26
Coimbatore District	0.82
Niligiri District	0.70
Madras District	0.58
Total	3.36

Madras city has attracted people from Kerala to a fairly lesser extent in spite of its metropolitan character. The border district of South Kanara and Coorg together account for majority of Malayalam speaking population in the Mysore state. In the case of Maharashtra, the Districts of the Greater Bombay (65674), Poona (10273) and Thana (6301) contain a significant proportion of the Kerala population in Maharashtra State. Andhra and Madhya Pradesh have a fairly good number of Malayalam speaking people viz., around 20000. Past trends thus indicate that there is a marked preference by the people of Kerala to migrate to border States like Madras and Mysore. In future such migration will not be possible owing to population pressure in the southern states. Therefore any large scale migration is possible only to other states where the density of population is low.

The prospects of agricultural development in other sparsely populated areas should be higher than in Kerala where the land man ratio is very low. In these areas where production of rice, coconuts, cashewnuts etc., are to be increased in the near future it is advisable to take in as many people of Kerala as possible as they have already the necessary skills in growing these crops. During the Fourth Plan cashewnuts production is going to be increased very significantly in the States of Maharashtra, Mysore and Madras. Madhya Pradesh can be considered as one of the areas to which the people of Kerala could be encouraged to migrate. In this connection, it would be useful to examine why the experiment of colonising landless labour from Kerala in the Sultanpur Inthakhari area of Madhya Pradesh was not a success. It will be necessary to ensure better implementation of the future programmes of settlement of Kerala's landless labour outside the State. More care has to be exercised in the choice of migrant settlers. In the case of Madhya Pradesh persons who were previously engaged in the mechanical operations were chosen for settlement. They were not able to form the land with the help of bullocks as done by the local cultivators. They were then advised by the Government of Madhya Pradesh to form a joint farming society. This was done in 1958 and the experiment could not succeed as the cost of cultivation was very heavy. Thereafter the society started farming with bullocks. But heavy dues remained outstanding from the society. The choice of families to be settled on land assumes considerable importance. It is also necessary for the receiving state to liberalise the procedure of recovery of taccavi and other loans to Kerala settlers. Co-operative farming need not be insisted upon on the settlers. Preference may be given to persons from Alleppey, Trivandrum, Ernakulam, Trichur, Quilon and Kozhikode Districts because of the high rate of unemployment and high density of population in these districts.

Agricultural development outside Kerala alone will not be able to absorb the people of Kerala in large numbers. There is need to examine the scope for non-agricultural employment also. The report on 'Shortage Occupations' analysed for the period October to December, 1965 shows that certain skills are in short supply at the all-India level while these very skills are not in short supply within Kerala (vide Table 19.4). In some of the skills atleast such as nursing attendants, university teachers, accountants, auditors, women welfare organisers, stenographers, Secretary, typists, Office Assistants and craftsmen, it may be possible to train people of Kerala with a view to their absorption outside the State:—

1. Mechanical Engineers
2. Veterinary Surgeons
3. Medical & Surgical specialists
4. Nursing Attendents
5. Sanitary Inspectors
6. University Teachers (Arts subjects)
7. Accountants
8. Auditors
9. Woman Welfare Organisers
10. Librarians
11. Stenographers Secretary
12. Typists
13. Office Assistants
14. Salesman (Wholesale)
15. Farm Overseer
16. Telegraphists
17. Fitter (General)
18. Turner
19. Pipe Fitter
20. Welder (Gas)
21. Electrician (General)
22. Crane Operators

Similarly, it is quite possible that the development of coir industry in other State may provide opportunities for the people of Kerala. The census of 1961 provides data on the distribution of professional and technical personnel in each State by their origin. The Appendix to this chapter shows the distribution of

persons from Kerala in the different States of the Indian Union by their technical and professional qualification. A summary is reproduced below:—

Sl. No.	*Description of occupation*	*Number*
1.	Post graduate & Doctors in Science	379
2.	Graduates in General Science	1555
3.	Engineering & Technology (Degree)	538
4.	do. (Diploma)	853
5.	do. (Certificate)	59
6.	Modern medicine (Degree and above)	195
7.	Ayurvedic, Unani & other systems	28
8.	Animal Husbandry, Livestock, Veterinary Science	13
9.	Modern Medicine (Diploma)	62
10.	Unclassified	21
	Total:	3703

The report on shortage occupations relating to Kerala for the period ending December 1962 to December 1966 shows that the following occupations which were reported as shortage in 1962 still continued as shortage but at a greater magnitude in December, 1966.

1. Secondary School Teacher
2. Secondary School Teacher (languages)

It is likely that either the training facilities were not adequately provided or that other factors such as lack of mobility due to unattractiveness of salaries and working conditions were responsible for the shortage of these types of personnel although trained persons were available in the labour market. On the other hand, the following categories were in short supply to a smaller extent as compared to 1962:—

1. Middle School Teacher
2. Nurses
3. Village Level Worker
4. Pharmacist

It is, therefore, desirable that such shortages are not allowed to recur in the Fourth Plan period. This would go to some extent in increasing non-agricultural employment opportunities within Kerala itself.

The migration pattern of Kerala in recent years has been beneficial to the State in the sense that it tended to reduce the pressure of population on the resources of the State such as good Schools, hospitals etc. The easening of the pressure on employment is of particular significance because of the acute nature of that problem in the State and the fact that migrants from Kerala are concentrated in the young adult ages where the problem of unemployment is most severe. A very high proportion of the migrants from the State are Matriculates and they are employed mostly in professional, technical and related occupations and as school teachers. In Kerala there seems to be no dearth of qualified persons who can fill up positions as clerks, stenographers, teachers and nurses. If the migrants from Kerala had not moved out they would have joined the over crowded group of job seekers in the State.

The proposed switchover to regional media for all stages and all subjects of education, if it replaces English completely, will aggravate the problem of unemployment by closing the avenues for educated youth in the State to go out in search of employment. Such difficulties will have to be countered in attempting more and more out-migration from Kerala which is essential also to alleviate the unemployment problem in the State. The State should atleast strive to maintain the present levels of out-migration.

The present survey shows that about 80 per cent of the out-migrants from Kerala have gone out in search of employment. Out-migrants during the dacade 1951-61 numbered 3.93 lakhs and in-migrants 1.8 lakhs. The in-migrants will have their impact on employment opportunities arising in the State. If the rate of out-migration of the period 1951-61 is to continue in 1966-76 also, after deducting the number of in-migrants, about 2.85 lakh persons will migrate to other States. Assuming that 80% seek employment the net out-migration of employment seekers works out to 2.28 lakhs. But the difficulties arising out of factors like pressure of population in other States, introduction of regional languages as media of education and organised opposition to the migrants by local interests etc., stand in the way of even achieving this target. Therefore concerted efforts at the national level is necessary to enable out-migration from States like Kerala where unemployment is the major social evil. A standing agency should

be assigned the responsibility of planning and enforcing migratory programmes. The following suggestion made in the "Techno-Economic Survey of Kerala" prepared by the National Council of Applied Economic Research, is of importance in this context.

"The State may set up interstate migration boards in each District of the State to keep a register of persons who are willing to migrate to other States of India. The work of these district boards could be co-ordinated by a nucleus department in the State Secretariat. This Department should maintain liaison officers in the other States which can offer avenues for resettlement. These officers could also be entrusted with the responsibility of looking after the needs of the emigrants. The objective of creating these boards and liaison officers is to explore the possible areas of in-migration and in turn, to dissaminate information about these avenues among the prospective emigrants. It is hoped that once a regular machinery is set up for encouraging migration, social and cultural barriers would prove less insurmountable than at present". Instead of creating the new machinery as suggested by the N. C. A. E. R., the National Employment Service Organisation may be used for this purpose by strengthening it suitably.

APPENDIX

Statement showing number of Scientific and Technical personnel who have migrated from Kerala to other States by their Branches of Education

Branch of Education

Sl. No.	State	*Post graduates & Doctors in Science*		*Graduate in General Science Subjects*		*Engineering Technical Degree*		*Engineering & Technical Diploma*		*Engineering Technical certificate*	
		0—8		9		10—33		34—47		48	
		M	F	M	F	M	F	M	F	M	F
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1.	Andhra Pradesh	4	..	42	4	15	1	32	..	2	..
2.	Assam	2	..	15	..	8	..	14	..	2	..
3.	Bihar	8	1	31	1	23	..	58	..	6	..
4.	Gujarat	11	..	75	6	24	..	44	..	1	..
5.	J. & K.	..	..	3	..	..	..	..	..	..	..
6.	Madhya Pradesh	11	3	92	9	48	..	186	1	17	..
7.	Madras	73	11	307	49	95	1	193	..	9	..
8.	Maharashtra	88	5	383	27	109	..	140	1	6	..
9.	Mysore	35	2	73	6	34	..	48	..	9	..
10.	Orissa	3	..	27	4	26	..	8	..	..	..
11.	Punjab	4	..	8	1	7	..	11	..	..	..

APPENDIX (*Continued*)

Statement showing Number of Scientific and Technical personnel who have Migrated from Kerala to other States by their Branches of Education

Branch of Education

Sl. No.	State	*Medicine Degree & above (Modern)*		*Animal Husbandry Livestock & Vet. Sc.*		*Diploma in modern medicine*		*Ayurvedic, Unani & other system of medicine*		*Un-classified*		*All categories*	
		49—51		52		53—55		56		57		0—57	
		M	F	M	F	M	F	M	F	M	F	M	F
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1.	Andhra Pradesh	2	4	1	..	1	..	..	..	3	..	102	9
2.	Assam	..	..	..	..	1	1	..	..	..	..	42	1
3.	Bihar	2	1	..	..	1	..	..	..	..	..	129	3
4.	Gujarat	2	..	..	..	..	3	..	..	1	..	158	9
5.	J. & K.	..	..	..	..	..	..	..	..	..	..	3	..
6.	Madhya Pradesh	3	2	2	..	3	4	1	..	3	..	316	19
7.	Madras	37	13	4	..	11	7	13	1	6	..	748	84
8.	Maharashtra	5	4	1	..	2	3	1	1	3	..	738	41
9.	Mysore	13	3	1	..	1	4	2	..	..	..	216	15
10.	Orissa	1	..	..	..	1	..	..	..	..	..	66	4
11.	Punjab	2	..	..	..	1	1	..	..	1	..	34	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12.	Rajasthanj	12	..	12	2	8	..	14	1	2	..
13.	U. P.	12	2	32	2	29	..	24	1	1	..
14.	West Bengal	26	1	60	4	61	..	30	1	..	..
15.	A & N Islands	1	1	5	..	..	..	3	..	..	..
16.	Delhi	50	9	209	45	48	..	73	..	5	..
17.	H. M. Pradesh	..	..	2	..	..	..	5	..	..	..
18.	L. &. A Islands	..	..	..	1	..	..	3	..	..	..
19.	Manipur	1	..	1	..	..	..	4	..	..	..
20.	Tripura	1	..	1	..	..	..	2	..	..	..
21.	Pondicherry	1	..	8	2	1	..	1	..	..	..
22.	N.E.B. Isl.	1	..	1	..	..	..	2	..	..	..
23.	Nagaland	..	..	4	..	..	..	3	..	..	..
24.	Sikkim	..	..	1	..	..	..	..	..	..	..
	Total:	344	35	1392	163	536	2	848	5	59	..

(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
12.	Rajasthan	..	..	1	..	2	2	1	..	..	..	52	5
13.	U. P.	7	6	3	..	2	3	1	..	1	1	111	15
14.	West Bengal	..	..	..	..	1	3	1	..	1	..	179	9
15.	A. & N. Islands	..	..	..	..	1	..	..	..	..	..	10	1
16.	Delhi	50	28	..	..	2	2	7	..	1	..	445	84
17.	H. M. Pradesh	..	..	..	..	..	..	..	..	..	..	7	..
18.	L & A Islands	1	1	..	..	..	..	..	..	..	..	4	2
19.	Manipur	..	..	..	..	..	..	..	..	..	..	6	..
20.	Tripura	..	..	..	..	..	..	..	..	..	..	4	..
21.	Pondicherry	4	1	..	..	..	..	..	..	..	..	15	3
22.	N. E. Bali	1	..	..	..	..	..	..	..	..	..	5	..
23.	Nagaland	..	..	..	..	..	..	..	..	..	..	7	..
24.	Sikkim	..	..	..	..	..	..	..	..	..	..	..	..
	Total	130	65	13	..	30	32	26	2	20	1	3398	306

Source:—Annexure to Union Table III on page 273 of 1961 Census report Part II-C (i).

M—Males. F—Females.

PART IV

MAIN CONCLUSIONS AND RECOMMENDATIONS

CHAPTER XX

MAIN CONCLUSIONS AND RECOMMENDATIONS

The study has revealed that 5.5 lakhs of persons were without even nominal work during the reference week and were either seeking or available for work. Added to this there were about 13.5 lakhs of persons who worked only 42 hours or less during the reference week and were available for additional work. About 17.5 lakhs of persons are expected to be added to the labour force during the Fourth and Fifth Plan periods. Thus the problem to be tackled during the decade 1966-76 is one of finding employment opportunities for 23 lakhs persons and to give more work opportunities for 13.5 lakh persons.

The above estimates have to be viewed as the lower limits of unemployment and underemployment because the present survey was conducted during the period October to December which is the busy season in agriculture. Further the projections of labour force have not taken into account the possibility of higher rate of labour force participation owing to progress of women's education lower mortality and increased economic activities. The influx of Indians of Kerala origin from other countries and the difficulties involved in effecting large scale migration to other States aggravate the problem.

Keeping in view the need for reducing the level of unemployment, the State Government urged the Centre to provide an outlay of Rs. 1020 crores (at 1960-61 prices) in the Fourth Plan. It was estimated that employment opportunities of the order of 10 lakhs will be generated as a result of this investment. Owing to the limitations of finance, the Government proposed an outlay of Rs. 751 crores in the Draft Outline of which Rs. 311 crores was in the State sector. This envisaged the creation of employment opportunities of the order of 7.5 lakhs. The State sector outlay has been tentatively fixed at Rs. 293 crores by the Centre. The gap between this and the outlay suggested in the State's Fourth Plan outline is to be made up by the Central and Private sectors. The present study has only confirmed the earlier apprehensions regarding the magnitude of unemployment in the State. It has revealed the imperative need for greater efforts at development.

Large scale underemployment is prevalent in the Agricultural sector. The 1955-56 Agricultural Labour Enquiry, the Farm Management Study of the Kerala University and the present survey

bring out this fact very clearly. As much a 8.5 lakh workers in agriculture worked less than 42 hours during the reference week and were willing to take up more work. This high level of under-employment clearly point to the fact that the agricultural sector cannot make any significant contribution in relieving employment. Instead what is urgently needed is to reduce the level of underemployment in this sector.

The Agriculture and allied activities are expected to generate additional employment for about 1 lakh persons. The estimate however does not take into account Co-operation and Community Development and Ware housing and marketing. An outlay of Rs. 9.40 crores is envisaged in the Fourth Plan for these items of development. As greater emphasis is likely to made on Co-operation, Community Development and Panchayat Raj Schemes in the Fifth Plan period an outlay of atleast one and a half times that of the Fourth Plan could be envisaged in this sector during 1971-76. The total outlay of Rs. 23.5 crores in this sector during the Fourth and Fifth Plans together with will have an employment potential of about 13500 out of this total employment potential will be required in the construction phase.

Fishing industry in Kerala offers considerable scope for development. The Fourth Plan has provided for an outlay of Rs. 12.50 crores which has an employment potential (direct) of 24500 persons. The Plan programmes is a moderate one. In view of the immense possibility of this industry an examination of the viability of a much larger investment programme deserves attention. A highly mechanised fisheries sector oriented to increased production and foreign exchange earnings is envisaged in the Fifth Plan period. An investment of Rs. 50 crores in the Fifth Plan while increasing the fish yield by about 2 lakh tonnes will contribute to an additional employment of 30000 persons. Thus the next decade will find about 54500 persons additionally engaged in the fisheries sector if investments envisaged materialise.

Development of poultry and dairying on commercial lines will help to reduce the intensity of underemployment. This will also help to increase the nutrition content of the diet of the people of Kerala. The Indo-Swiss Project in Kottayam District aims at setling about 750 agricultural families in an area of 10000 acres and demonstrating that animal husbandry coupled with Agriculture is a profitable economic activity. The experience gained from this project will help to widen the activities in the field throughout the State.

No reference has been made in the foregoing chapters regarding expansion of activities under major irrigation, flood control and anti-sea erosion. Though the peculiar topographical condition prevailing in the State favour investment in minor irrigation projects than major ones, the scarcity conditions prevailing in the food front should influence the planning authorities to devote due attention to major schemes as well. The future policy should be to continue the expansion of area irrigated under paddy as well as other crops. The Fourth Plan Draft outline provides an outlay of Rs. 50 crores for completion of the irrigation projects started during the Third Plan period and for minor works connected with projects started earlier. An amout of Rs. 1 crore is allocated for flood control schemes.

At least 200 out of the 360 miles of sea coast in Kerala is exposed to the fury of the monsoon. The magnitude of the problems has made the Central Government to agree to the financing of anti-sea erosion works. The All India Fourth Plan Draft has indicated an outlay of Rs. 13 crores for sea erosion in Kerala. It is expected that by the end of the Fourth Plan period only about 40 miles of the sea coast would have been protected by sea walls. As sea erosion poses danger to dwelling places and cultivated lands of the coastal area, the activities connected with the scheme will have to be redoubled during the Fifth Plan period. If we assume that an investment of Rs. 26 crores will be made in the Central sector in the Fifth Plan period, the total investment in the coming decade for anti-sea erosion works will be of the order of Rs. 39 crores. The same amount of investment as in the Fourth Plan can be expected for irrigation and flood control in the Fifth Plan period too. Thus the total investment that can be expected for irrigation, flood control and anti-sea erosion schemes in the coming decade is around Rs. 100 crores. As these are construction activities, employment in the construction stage is more relevant here. Based on the norms worked out by the Planning Commission, the total employment in the coming decade under irrigation, flood control and anti-sea erosion works can be placed at 65000. (62500 in construction activities and 2500 in the continuing phase).

Electric power is the basic infrastructure for modern industries. Up till now Kerala has been a deficit area in regard to power though endowed with considerable potential for power generation. The State claims about 7% of the total estimated potential for India, but the schemes so far undertaken in the State will be able to utilise only 35% of this potential. The accelerated growth of the industrial sector contemplated in the

coming decade makes power development one of most crucia of Plan objectives. An investment of Rs. 82.5 crores is contemplated for the activities in this sector during the Fourth Plar period. This is bound to nearly double itself in the Fifth Plan Thus altogether a total investment of Rs 232.5 crores is envisaged for the decade 1966-76 which will help to generate additional employment of the order of 35000. Some of the units suggested by the NCAER have already been established. Those programmes which have not yet been taken up will have to be taken up immediately.

The present survey reveals that nearly 1.45 lakh of person having educational qualifications above matriculation level are jobless. This clearly indicates the severity of educated unemployment in the State. There are about 3800 Diploma holders in engineering remaining unemployed. The level of educated unemployed is likely to increase in the Fourth Plan period. A long term plan to solve this serious problem will have to be evolved.

The NCAER in their Techno-Economic Survey of Kerala has stated that migration offers a more feasible solution to the unemployment problems, especially of that of the educated category, than complete reliance on local measures for stimulating employment. This consideration deserves serious thought. A policy at the national level has to be formulated. In this context the case for the organisation of a labour market in Kerala with a view to ensuring a continuous and regular programme of recruitment by other States of specified categories of workers from Kerala deserves serious consideration.

Though transport is one of the advanced sectors of the economy of the State, much more development in this sector is needed in view of the expected heavy demands on the transport system during the coming decade. The railway system is inadequate to cope with the rising tempo of industrial activity. The road mileage is also insufficient in relation to population. An investment of about Rs. 250 crores is expected in the decade 1966-76 on road development and transport, railways, inland water transport, minor ports, civil aviation and tourism. The above order of investment is expected to generate additional employment opportunities to about 1.18 lakh persons.

Nearly a third of the total revenues of the State is expended on education. The State has the foremost phase in the matter of literacy. The Fourth and Fifth Plans envisage expansion of educational efforts at all levels with increased emphasis on the

quality of education. An investment of about Rs. 68 crores could be envisaged for education. Nearly 86000 persons are expected to get additional employment in this sector during the coming decade.

Kerala is well advanced compared to the rest of India in the matter of social services like public health, labour and labour welfare and housing and social welfare. The total investment expected in the coming decade under public health and family planning, housing and construction, welfare of backward classes, social welfare, and craftsman training and labour welfare is of the order of Rs. 240 crores. The additional employment expected during the decade is around 1 lakh. Schemes connected with rural works programme, and hill areas and special areas are implemented by the Centre. A total investment of Rs 195 crores is proposed in the All-India Fourth Plan for these schemes. If we assume that an investment of similar magnitude will be made in the Fifth Plan period, a total investment of about Rs. 400 crores will be available for these programme in the coming decade. On population basis about Rs. 10 crores will be invested in Kerala. As pointed in the all India Draft Plan an investment of about Rs. 90 crores would be able to create employment to about 15 lakh persons is slack agricultural seasons in terms of work for 100 days in the year. On this basis an investment of Rs. 10 crores could create part-time employment to atleast 1.5 lakh persons. In terms of full employment this can be considered as employment to 50,000 persons.

An outlay of Rs. 80 lakhs is provided in the Fourth Plan, for miscellaneous schemes comprising information and publicity, planning administration and statistics. It is envisaged that twice this amount will be invested in the Fifth Plan. Thus about Rs. 2.5 crores can be expected to be invested in the coming decade on miscellaneous schemes. Nearly 1000 persons could be additionally absorbed in these schemes during fourth and fifth plan periods.

The industrial sector in the State is backward compared to the other States in India. The average worker in industries in Kerala gets the lowest wage compared to his counterparts in other States.

Almost all the traditional industries in the State are experiencing difficulties. The major task here is to maintain atleast the present levels of employment. The coir industry which employs about 3 lakh workers is subject to stiff competition in foreign markets from substitutes like sisal and hemp. The possibility of introducing new lines of production may help to stabilise the employment in coir industry. Another major traditional industry in the State in cashew which employs 84,000 workers mostly women. More than 50% of

the factory workers in the State are engaged in cashew industry. Nearly 70% of the raw nuts needed for the industry are imported from African countries. With rapid development along modern lines of the industry in the African Countries, Kerala will experience raw material shortages. A long term plan for increasing internal production of raw nuts is therefore necessary.

The tile industry which employs about 25000 workers is also in a similar predicament. Loss of export markets and availability of substitutes like R. C. roofing hamper the growth of the industry which in turn affects the employment prospects in the industry.

Handloom industry which provides employment for about 69000 workers faces continuing shortage of yarn and declining markets. On the whole these little prospect of creating more employment in traditional industries.

The industrial estates programme and the rural industries programme have come up with the inception of Five Year Plan in the State. As a result of the introduction of these programmes a number of small scale industries have sprung up. The major difficulty experienced by the units in the industrial estates is unused capacity resulting from shortage of raw materials. For an effective functioning of these units a proper policy of raw materials distribution should be evolved.

The rural industries project at Kozhikode and Alleppey set up in 1962-63 employ nearly 1200 persons. Most of the units in these projects are not of the traditional type. Important enterprises in the projects relate to fish preservation, glass manufacture, bonemeal manufacture, footwear, agricultural implements, cattle feed, etc. The possibility of setting up similar projects needs to be explored.

A total investment of the order of Rs. 87 crores is expected in the small scale sector during the Fourth and Fifth Plan periods. This will bring in its train a number of small units having considerable employment potential. The estimate of employment likely in the coming decade is 1-97 lakhs.

Industries of the major type are few and far between in Kerala. Unless industries of the basic type are forthcoming in the State, the transformation of the economy from an agricultural one to an industrial one could not be effected in the near future. Also the development of small scale industries is highly dependent on the development of heavy and basic type of industries. There is considerable scope for ancillary industries in the State. This will be possible only if induced growth of large industries is effected. A total investment of Rs. 505 crores in the public and private sectors

together on large and medium industries is envisaged in the Fourth and Fifth Plans together. As industries having high capital base is envisaged, employment potential in the large scale sector in the coming decade will be of the order of 1 lakh.

TABLE 20.1

Employment potential of the IV and V plans

Sl. No.	Sector	Investment (Rs. crores)			Additional Employment likely ('000)
		State Sector	Central & Private sectors	Total	
(1)	(2)	(3)	(4)	(5)	(6)
1.	Agriculture and allied sectors	108.75	216.00	324.75	100.0
2.	Co-operation, Community development. warehousing and marketing	23.50	..	23.50	13.5
3.	Fisheries	42.50	23.25	65.75	54.5
4.	Irrigation, Flood control and anti-sea erosion	62.00	39.00	101.00	65.0
5.	Power	232.50	..	232.50	35.0
6.	Small Scale Industry and Rural Industries	13.22	73.40	86.62	197.0
7.	Large and Medium Industries	50.00	455.00	505.00	100.0
8.	Transport	65.00	188.40	253.40	118.0
9.	Education and Training	68.00	..	68.00	86.0
10.	Social Services	75.93	165.00	240.93	100.0
11.	Rural works, Hill areas and special areas	..	10.00	10.00	50.0
12.	Miscellaneous Schemes	2.50	..	2.50	1.0
13.	Trade and Distribution	..	..	..	131.0
14.	Employment outside Kerala	..	..	..	228.0
	Total	743.90	1170.05	1913.95	1279.00

The employment potential in the various sectors of development during the Fourth and Fifth plans is only of the order of 11 lakhs. Large scale migration seems to be one of the important means of relieving unemployment in Kerala. The attainment of this objective is be set with several problems. Besides the preference of the States for local talents, the activities of anti-social organisations in some of the States like the Maharashtra and the introduction of regional language at all levels of education, the inflow of workers from the neighbouring countries like Burma, Malayesia and Ceylon as a sequel to the implementation of repatriation agreements make large scale out-migration very difficult to attain. Crowning these difficulties we have to reckon with the normal rate of immigration into Kerala State. During the decade 1951-61 the total number of immigrants was 1.08 lakhs and that of out-migrants 3.93 lakhs. Atleast a proportion of the immigrants will have their impact on the job opportunities arising during the coming decade. Nearly 80% of the out-migrants go out of the State in search of employment. The net out-migration of employment seekers thus works out to about 2.28 lakhs if we assume the same rate of out-migration in 1951-61 will prevail in the coming decade as well. Adding this to the total employment potential in the various sectors of development, the additional employment likely to be generated in the Fourth and Fifth Plans together can be placed at about 13 lakhs.

The present survey on employment and unemployment reveals that 5.5 lakhs persons are employed in the State. It is expected that the additions to the labour force will be of the order of 17.5 lakhs during the decade 1966-76. This will bring the total number of jobs to be created in order to solve the unemployment problem to 23 lakhs. It is too big a task to be overcome during the coming decade. Our assessment shows that only about 13 lakhs jobs could be created additionally during the period 1966-76, thus leaving about 10 lakh people as unemployed in 1976. Even this position is attainable only if a total investment of about Rs. 1900 crores is made during the decade.

The present situation certainly calls for an all out attack on the deep seated malaise of unemployment in Kerala. Lack of resources financial and otherwise, has stood in the way of speedy elimination of unemployment during the last three five year plan periods. Efforts in the past were quite inadequate to cope with this gigantic task. It would be incorrect to entertain a vision of full employment in a developing economy. But it should be possible to reduce to the minimum the dead weight of unemployed people. The soaring unemployment can be curbed only by a planned utilisation of the vast unused human resources. The foregoing chapters discuss the lines of development that could be adopted both by the State and the

Centre for relieving the pressure of unemployment in Kerala. It is found that even as investment of the order of Rs. 1900 crores will bring in employment opportunities for only 13 lakh people. A third of the investment suggested for the Fourth and Fifth Plan is for industries. Only on industrial transformation of the State's economy can pave way for more and more job opportunities. Hence an ambitious programme of action in the industrial field has to be adopted in the years to come. Some of the bottlenecks like inadequate development of infra-structure are being slowly removed. With the stepping up of the tempo of industrialisation, there will be an easening of the employment situation in the State. This is the time for sufficiently large investment in industry from the point of view of strengthening of the economy and generation of employment.

APPENDIX I

Questionnaire of the Survey of Employment and Un-employment Kerala, 1965

A. Identification particulars of sample household

1. District
2. Taluk
3. (i) Municipal Town/Panchayat
   (ii) Rural-1/Urban-2
4. Sample household number
5. Name of head
6. Number of Informant
7. Informants relation to head
8. Religion
9. Household group
10. Principal source of household income

B. Details of migration from the household

1. Number of members migrated to other states (i) Total number
   (ii) For work
2. If there are migrants whether there is any regular remittance from them
3. If yes for (2), does it form the principal income of the household.

Codes:—

BLOCK A: Item 9, household group: Scheduled Castes-1, Scheduled Tribes-2, Other Backward Communities-3, Others-4

Wages Employment in—

(a) Agriculture—Regular -01, Casual - 02.

(b) Non-Agriculture—Manufacture -03, Trade -04, Professions-05, Others -06

Self Employment in—

(a) Agriculture—Cultivation -07, Other Agricultural occupations - 08,

(b) Non-Agriculture—Manufacture-09, Trade-10, Professions-11, Others-12

C. Individual details and Employment particulars.

Serial number of Individual (1) (2) (3) (4) (5) (6) (7)

1. Relation to head
2. Sex (Male-1, Female-2)
3. Age last birth day (Years)
4. Marital Status (Code)
5. Educational Standard (Code)
   (i) General
   (ii) Technical
6. Skill and Experience (Code)
7. If native place is different from place of enumeration
   (i) State (Name)
   (ii) District (Name)
   (iii) Rural-1/Urban-2

O. Serial Number of Individual	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(iv) Period since migrated (Months)							
(v) Reason for migration (code)							
8. Usual occupation (code)							
9. Whether worked for pay, profit or family gain on atleast one day during the preceeding seven days (Yes 1, No-2)							
10. If yes for (9)							
(i) Industry (Description and code)							
(ii) Occupation (Description and code)							
(iii) Employment status							
(iv) Whether current by registered with the Employment exchange (Yes-1, No-2)							

Codes:—Item 4, Marital Status: Never married -1, Married-2, Widowed, divorced and separated - 3.

Item 5, Educational Standard (1) General. Illiterate -1. Literate but below primary Primary -3, Middle-4, Matric-5. Intermediate Pre-University or equivalent-Graduate-7, Post-graduate-8.

11. If no for (9), whether had any job or enterprise from which temporarily absent due to illness, injury, paid leave, vacation etc. (Yes-1, No-2)								
12. If yes for (11),								
(i) Industry (Description and code)								
(ii) Occupation (Description and code)								
(iii) Employment status:								
(iv) Whether current registered with Employment Exchange (Yes- 1, No-2)								
13. If no for (11)								
(i) Whether seeking or available for work (Yes-1, No-2)								
(ii) Reasons for not doing any work during the preceeding seven days (code)								
14. If yes for 13 (i) whether								
(i) seeking work for the first time (Yes-1, No-2)								
(ii) Occupation looking for (Description and code)								
(iii) Currently registered with the Employment exchange (Yes-1, No-2)								
(iv) Applied for any job during the last 60 days (Yes-1, No-2)								
(v) Contacted any protective employer during the last 60 days (Yes-1, No-2)								
(vi) If no for (ii), (iv) and (v) above reason (code)								
(vii) Period since looking for work (month)								
(viii) Willing to go outside the State (Yes-1, No-2)								
(ix) If yes for (viii), whether willing to go anywhere in India for interview at own expense (Yes-1, No-2)								
(x) If no for (viii) above, whether willing to go anywhere within the State (Yes-1, No-2)								
15. If no for 13 (i), reason (code)								

Details of labourtime disposition during the week ended on .....

Serial Number of person as in block 5	Gainful Occupation				7th day		6th day		5th day		4th day		3rd day		2nd day		1st day		Total for week	
	Descri-ption	Internal code	Occupation code	Employment status	Number of hours worked	Extra hours available for work	Number of hours worked	Extra hours available for work	Number of hours worked	Extra hours available for work	Number of hours worked	Extra hours available for work	Number of hours worked	Extra hours available for work	Number of hours worked	Extra hours available for work	Number of hours worked	Extra hours available for work	Number of days worked	Number of hours worked	Extra hours available
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22

Total for person

Total for person

Total for person

Codes:

Item 5, (ii) Technical: Degree in Agriculture-1, Engineering-2, Technology-3, Medicne-4 Other subjects-5, Diploma or Certificate in Engineering-6, Technology-7, Medicine-8, Others-9

Item 6, Skill and Experience: (a) Skill (left hand two digits) Typists, Stenographer-01 Fisherman-02, Weaver-03, Tailor-04, Cobbler-05, Carpenter, 06. Mason-07, blacksmith-08, Goldsmith, Silversmith-09, Electrician-10, Motor vehicle driver-11 Nurse, Midwife-12, Beedi maker-13, Barber-14, Moulder-15, Machineman-16 Welder-17, Fitter-18, Boatman-19, Washerman-20, Others (specify)- 21.

(b) Experience (Last digit): No experience 0, upto 1 year-1, 1 to 2 years-2, 2-5 years-3 5 years or more-4.

Item 7 (v), reason for migration; in search of employment-1, other reasons-2.

Item 10 (iii) and 12 (iii), employment Status, employee-1, employer-2, own account worker-3 unpaid helper-4.

Item 13 (ii), reason for not doing any work: no work due to off-season-1, other reasons-2.

Item 14 (vi), reason: expecting recall to last job-1, relieves that no opportunities exist in the locality-2, other reasons (specify) -3.

Item 15, reason: student-1, rentier (living on rents, interest, dividends, etc.)- 2, living on pensions, provident funds, gratuities or past savings -3, house worker-4, living on alms and remittance-5, infirm, disables-6, too young (below 14)-7, too old (60 and above)- 8, others-9.