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GOVERNMENT OF KERALA

**MINI INDUSTRIAL ESTATES
IN
KERALA**

**BUREAU OF ECONOMICS AND STATISTICS
TRIVANDRUM
1979**

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Government of Kerala
1980

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PREFACE

The programme of Mini industrial estates envisages the setting up of 10,000 mini industrial units in Kerala in four years. To begin with, a target of 1000 industrial units has been fixed for the year 1975-76. But only 323 units have been commissioned during this period and they are subjected to the present study.

Mini industrial units are the smallest units among small scale industries, but their problems are the gravest. This report presents a few facts and factors regarding the working of the industrial units in the mini industrial estates. An attempt has also been made to highlight the major problems that are being faced by these units.

The report has been prepared by Sri G. Surendranathan Nair (Assistant Director) assisted by Sri T. V. Issac (Research Officer). Tabulation of data has been attended by Smt. C. Padma, Sri P. A. Varghese, Smt. P. R. Vijayalakshmi and Sri Kurian Abraham (Compilers) of the Industrial statistics division of the Bureau.

I hope that the report will be of much use to the planners and policy makers of industrial growth in Kerala.

Trivandrum.

Dr. P. A. NAIR,
Director.

1979

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CHAPTER I

Introduction

INDUSTRIAL BACKGROUND OF THE STATE

The Government of Kerala promote small scale industries with the hope of generating more employment opportunities as unemployment is one of the most important problems of the state which warrants immediate attention. This strategy is in line with the policy pursued at the All India level which aims at industrialisation which is more labour intensive as also balanced between regions. There are many factors which contribute to the problem of unemployment. Compared to other States of India, the cropping pattern of Kerala is less labour intensive resulting in a lower proportion of workers in the agricultural sector (The cropping pattern is dominated by perennial crops which are high value yielding but less labour intensive). Besides, the high density of population and its growth result in a higher proportion of the population in the younger age group. Further, the decline of industrial sector (due to the decay of traditional industries such as coir, handloom, cashew, etc.) has led to large scale unemployment and under-employment. Since the agricultural sector is fully saturated there is little scope for further expansion in employment. The secondary sector has shown a declining trend in recent decades. The tertiary sector of the economy, however, absorbs a good percentage of work-force contributing a larger share of the state income. Individuals who have sufficient capital to invest have been attracted to tertiary sector rather than to secondary sector. Consequently the secondary sector of the state has become stagnant. All these factors have contributed to large scale unemployment.

Kerala is industrially backward. In fact the major responsibility of the backwardness of the State can be attributed to its low share of the secondary sector in the domestic products. Compared to the share of secondary sector at all India level of 20% of the national income, the percentage of the same in Kerala is only 10% of the State income. About 57% of the State income in 1974-75 at current prices is originated from agriculture and allied activities compared to 50% at national level (table below).

TABLE I

Sector wise contribution of State income 1974-75 in percentage

<i>Section</i>	<i>Kerala</i>	<i>All India</i>
Primary	57	50
Secondary	10	20
Tertiary	33	30
Total	100	100

In this connection it is significant to note that the process of economic development in India has tended to be more cumulative rather than equilibrating in character. Kerala State is not in receipt of its due share of Central Government industrial investment. Though Kerala has 3.9% of All India population she gets only 2.7% * of Central Government's industrial investment. Added to this, industrial financial assistance from various agencies are not fully utilised by Kerala. This is evident from the table below.

TABLE 2

Industrial financial assistance to Kerala

Industrial Development Bank (I.D.B.I. June 1971)	3.2% of All India
Industrial Credit & Investment Corporation of India (12/75) ICICI	2.1% "
Industrial Financial Corporation of India (IFCI) (6/76)	3.2% "
Schedule Banks (12/74)	3.1% "
L.I.C. of India (3/76)	4.8% "
Agriculture Refinance and Development Corporation (6/76) (ARDC)	1.1% "

(Data relating to the period given in bracket)

Higher resource absorption capacity of advanced states resulting from their already well developed industrial and institutional infrastructure, is worth noting and the inability of the State in this respect is very evident and this phenomena has paved its way to industrial stagnation and a decline of the industrial sector of the State resulting in large scale unemployment and under employment.

Unlike other States, Kerala has a well developed infrastructure, a well distributed banking system and an excess capacity in the generation of electrical energy. Above all it has a unique concentration of rare minerals (such as monozite, sercon, ilmenite, china clay, etc.) and vast marine resources. Besides, it has the highest level of literacy. All these factors are favourable points which give confidence to launch a massive and dynamic programme for proper industrialization. Industrialization, in turn, opens opportunities for the creation of immediate and permanent employment. Development of Small Scale sector is the answer to our massive unemployment, for, it can generate employment at a relatively lower cost. It is in this

*Annual Report on the working of Industrial and Commercial undertakings of the Central Government 1974-75. Vol. I Ministry of Finance. Bureau of Public Enterprises, New Delhi.

perspective that one should look upon the programme of mini industrial estates in the State. In fact Kerala has monopoly for a few industrial raw materials by which a number of industries can be promoted and developed, ie. industries based on rare minerals, rubber, clay, cotton, cashew, coconut, fruits, forest products, marine products etc., Have we utilised these raw materials for developing our industries? The available industrial raw materials are being exploited by entrepreneurs of other States and the production of goods and materials, is controlled by those industrialists from outside Kerala. They have grown to the extent of controlling the price of the raw materials available in Kerala, since they are the potential users or consumers of our raw materials (for instance, rubber is produced in Kerala but the factories and industrial establishments are mostly outside the State). In fact we have very little industries to boast of other than the traditional industries which tend to decay with time. Industries, for which Kerala has monopoly in raw materials and has the potentiality for development are listed below:

1. *Industries based on Coconut.*—Coir & coir products, oil, cattle feed and allied products.
2. *Industries based on Cashew.*—cashewnut processing, cashew oil, tar and allied products.
3. *Industries based on rubber.*—Tyre, tube, foam rubber, chappals and allied products.
4. *Industries based on Wood.*—Splinters, veneers, plywood, furniture matches, packing cases and allied products.
5. *Industries based on Indigenous herbs.*—Pharmaceuticals, perfumes, medicated oil, etc.
6. *Industries based on rare minerals.*—Clay, titanium, clay products paints, etc.
7. *Handicrafts.*—Toys, ivory goods, etc.
8. *Industries based on marine products:*
9. *Textile products.*—Garment making
10. *Industries like electronics.*—Which need higher level of technology can be started in Kerala for which we have a population which is basically higher in educational standard.

Government of India have listed as many as 500 items which are meant exclusively for the small scale sector. Those items which can be manufactured in Kerala could be identified by a Statewide industrial survey by proper identification of areas for development based on the availability of industrial development components, the industries can be started and promoted and made to develop with further scope for expansion. The basic need is a comprehensive study of the industrial base of the State, industrial resources, consumption pattern and market potentialities of the industrial produce of Kerala.

Industrially, our State does not develop because it is poor and the State is still poor because it does not develop industrially. This is a vicious circle. There must be a break through by a massive, dynamic programme, no matter whether we fail at its initial stages or not. The programme of mini industrial estate and industrial estates in the State, with all its defects and deficiencies, has generated enthusiasm among the educated unemployed and the public at large and it has opened an opportunity for the educated and unemployed to think of an avocation in the industrial enterprise.

An attempt has been made in the paper to present a few facts and factors regarding the working of the mini industrial estates in Kerala. The factors which promote and retard the small industries in Kerala in general, are also highlighted.

CHAPTER II

MINI INDUSTRIAL ESTATES—FIELD SURVEY

The programme of mini industrial estates was designed (1) to provide employment opportunities for absorbing the educated unemployed;

- (2) to make full utilization of the local raw material resources of the State;
- (3) to mobilize financial resources from the various channels and from financial institutions;
- (4) to generate an industrial outlook among the public at large.

The idea behind the programme was to develop industrial growth centres by establishing mini industrial estates in the first instance.

The programme had in view 1000 mini industrial estates with 10 industrial units in each estate. To begin with, the target fixed for 1975-76 was the establishment of 1000 industrial units in 100 mini industrial estates (Table 3 appended). The present study is confined to these mini industrial estates.

Object of the Study

The main object of the study is to ascertain the areas of achievements and failures of industrial/mini industrial estates and help focus attention on the actual problems that are being faced by the industrial units in the 100 industrial estates.

Coverage

The study relates to the period 1-4-1976 to 31-3-1977. All mini industrial estates started since 1975 come under the purview of this study (See Table 3 for the list of Mini Industrial Estates under study).

Field work

The field work was for a period of 3 months. 15 Investigators of the Industrial Statistics Section attended the field work by collecting details from all the industrial units working during 1976-77. Training was given to the Investigators before they were sent to field work. The District level officers inspected the field work. No additional staff was appointed for this study.

Industrial Units in Industrial Estates

Though 1000 industrial units were planned in 100 Mini Industrial Estates, only 323 units have reported that they have commissioned on or before 30-4-1977. Of 323 units commissioned, only 190 units are seen working and only these units are subjected to the detailed study. The remaining 133 units are not covered in this study because of the following reasons.

Units which have started production only after the reference period i.e. 3/1977	30
Units from which returns are not available (the proprietors are not traceable)	10
Closed down units	93
Total	133

TABLE 4

District-wise distribution of Mini Industrial Estates

	<i>No. of units commissioned</i>	<i>No. of units working</i>	<i>Units showing positive investible surplus</i>	<i>No. of sick units</i>
Trivandrum	33	15	4	11
Quilon	42	29	13	16
Alleppey	24	18	8	10
Kottayam	26	16	5	11
Idukki	30	18	9	9
Ernakulam	28	14	5	9
Trichur	28	13	2	11
Palghat	22	9	4	5
Malappuram	29	11	4	7
Kozhikode	33	25	9	16
Cannanore	28	22	8	14
Total	323	190	71	119

The above table reveals that 22% of the units commissioned in the 100 mini industrial estates have started functioning showing a positive investible surplus. The remaining 78% of the units have shown a negative investible surplus and they are to be treated as sick units. But only 37% of units working are running without loss (i.e. 71 out of 190 units)

Time lag between the date of sanction and date of starting production

Fifty Seven per cent of the industrial units have started production within six months of the sanctioning of the units.

The Table 5 below shows the time lag.

TABLE 5

<i>Time lag</i>	<i>No. of units which started production</i>
6 months ..	109
6 months - 1 year ..	16
2 years ..	1
Not reported ..	7
Total	<u>190</u>

The delay in starting production is mainly due to non-availability of raw materials, inadequate working capital and financial aids from various agencies. The speed at which these units are started are not maintained subsequently when it starts actual production.

Land and Building

The mini industrial estates are set up in an area of about one acre of land surrendered by the Panchayats to Government. The estate buildings are owned by the Kerala State Small Industries Corporation (KSSIC) or in some cases the district level industrial estate Co-operative Society. Therefore fixed capital of the industrial units excluding land and buildings are taken into account for the analysis.

Capital size

The industrial units in the mini industrial estates have been classified according to capital size. Of 190 units working, only 24 units are seen in the capital size of over 1 lakh and 67 units are in the capital size. 25 thousands to 50 thousands 30 units are in the capital range of 15 to 20 thousands 18 units are having only a capital size of less than Rs. 15 thousands. A point of importance to be noted here is that more than 76% of the units working

have a capital size of less than one lakh. According to standard definition all units having a capital size of 10 lakhs or less are considered as Small Scale Industry. So what we see in mini industrial estate is only tiny units which are to be differentiated from small scale unit if we want to promote their development. In other words these tiny units are incapable of competing even with the small scale units of higher capital size.

TABLE 6

Classification of industrial units according to capital size

<i>Capital range</i>	<i>No. of units</i>	<i>Percentage</i>
10 thousand	6	3.16
10—15 "	12	6.32
15—25 "	30	15.79
25—50 "	67	35.26
50—100 "	51	26.84
100—200 "	20	10.33
200—400 "	4	2.10
Total	190	100.00

Period of work during the year

It is seen that most of units are out of work during the major part of the year. Only 37 units have worked for 250 days during the year. 52% of the units have worked for less than 150 days in the year.

TABLE 7

Classification of industrial units according to period of work

<i>Working days during the year</i>	<i>No. of units</i>
50 days	37
50—150 days	64
150—250 days	52
≥ 250 days	37
Total	190

More than half the units have worked for less than 150 days in an year. This indicates that units are idling without work for want of working capital, proper plants and machinery, technical assistance, power supply, skilled workers and sufficient industrial raw materials, especially material supplied under quota system. These tiny units, if they are out of work for the major part of the year, tend to go sick. The expenditure of units and the personal expenditure of the owner Proprietors are one and the same. It can hardly be differentiated and the accounting is absent in most of the cases. Almost all the units now working are units with working proprietors. The most pressing problems are lack of finance and managerial skill. There working proprietors tend to attribute their difficulties to lack of funds (that is, to circumstances which they believe to be beyond their own control). Nobody likes to admit the lack of knowledge of any sort.

The Methodology adopted to assess the industrial efficiency of the industrial units working in the mini industrial estate

Data relating to capital, input, output, number of persons employed, number of days worked during the year etc. have been collected from all the industrial units working in the mini industrial estates. To measure the efficiency and the economic viability of the industry, certain indicators or tests are to be used. Here, the efficiency of the industrial unit is judged by its output-input ratio and the rate of return i.e., the investible surplus on the fixed capital investment. Investible surplus is worked out by subtracting wages from the value added by manufacture which is the difference between output and input. Besides, the rate of investible surplus for each industrial unit is estimated by dividing the amount of investible surplus per year by the cost of fixed capital excluding land and building. Investible surplus has been generally used as an index of industrial efficiency. This index helps to identify the sick units from other units. The details of fixed capital investment, investible surplus and rate of investible surplus for the year 1976-77 in respect of 190 units working under mini industrial estate is given in the Table 12 (appended).

Of 190 units working 119 units (52%) show a negative investible surplus. This means that 52% of the working unit are already sick and are running at a loss and only 71 units indicate a positive investible surplus.

Distribution of industrial establishments according to investible surplus.

No. of industrial units showing positive investible surplus	71
No. of units showing a negative investible surplus	119
	<hr/>
Total	190
	<hr/>

It may be well to point out that about 63% of the units now showing a positive investible surplus, are tiny units whose capital size is less than 10 thousands, about 31% are in the capital range of 10 thousand to 50 thousand. Only 3% are in the range of 50 thousands to 1 lakh and 3% in the capital size of 1 lakh to 3 lakhs.

TABLE 8

Capital size range of industrial units having positive investible surplus

<i>Capital size</i>	<i>No. of units</i>	<i>%</i>
Upto 10 thousand	45	63
10—50 „	22	31
50—1 lakh	2	3
1 lakh—3 lakhs	2	3
Above 3 lakhs	Nil	..
Total	71	100

It is significant to note that it is the units with very small capital investment that have shown positive investible surplus or profits. 94% of the units running profitable in the mini industrial estates, are having a capital range of less than Rs. 50,000. All units with heavy capital investment are running at a loss. Since costly plants and machines are purchased on borrowed money/loan funds/credit purchase, the interest charged on the capital investment falls as a heavy burden which eventually leads the unit to ruin. The full capacity of the plant and machinery are rarely used in most of the units for which they have expended huge sums of money. Unintelligent and irrational purchase of costly plant and machinery, the full use of which is never possible, is one of the bottle necks of the sick units. In certain cases, the full utilization of the plant and machinery is not possible for the simple reason that the accommodation of the unit in the Mini Industrial Estate will not permit additional space. Mini Industrial Estate is suitable for small units of low capital investment (it may serve well as units of own account enterprises if they are planned with meticulous care and caution) own account enterprise is one which is owned or operated by a household without the help of any hired worker.

On an analysis it is seen that 15 types of industrial units have started functioning in the mini industrial estates, but 9 types of industries somehow carry on their work and six type of industries have already gone sick because of various reasons.

In the mini industrial estate as a whole 1360 persons find employment and an amount of Rs. 15.85 lakhs has been disbursed by way of emoluments to employees. An employee on an average gets only Rs. 1166 in an year or about Rs. 97 in a month. Now 190 industrial units are seen working during the survey period 1976-77 and a sum of Rs. 99.2 lakhs has been utilized as fixed capital (this excludes land and building). An amount of Rs. 107.2 lakhs is seen as outstanding loans. Most of the units have availed of the benefits of hire purchase system and 14.3 lakhs worth of plant and machinery have been purchased by hire purchase system (Table 10 appended).

TABLE 9

Summary data—Mini Industrial Estates

The following table reveals the overall picture of the Mini Industrial Estates (1976-77).

1. No. of mini industrial estates	100
2. No. of industrial units in mini industrial estates planned	1000
3. No. of units commissioned	323
4. No. of units functioning	190
5. No. of units working without loss	71
6. No. of units which have fallen sick	119

Details of 190 Units working

	Rs.
Fixed capital utilised by these 190 units	107.8 lakhs
Fixed capital excluding land and building	99.22 ,,
Working capital	42.4 ,,
Outstanding loans	107.2 ,,
Hire purchase of plant and machinery availed	14.3 ,,
No. of persons employed	1360 nos.
Mandays worked	243090 nos.
Average No. of days worked	179 days
Total emoluments paid to employees	15.8 lakhs
Materials consumed for production worth	84.4 ,,
Fuel consumed worth	2.8 ,,
Other items of input worth	3.6 ,,
Total input worth Rs.	90.8 ,,
Value of products worth	101.5 ,,
Value of byproducts worth	2.1 ,,
Work done for customers	4.3 ,,
Total output	108.00 ,,

	Rs.
Goods sold within the State worth	75.8 lakhs
Goods sold outside the State worth	11.6 ..
Goods exported worth	2.1 ..
Total	89.5 ..
Total value added by manufacture	17.2 ..
Total investible surplus	1.35 ..
Rate of investible surplus is 0.01 ie. 1%	
Capital output ratio 0.92	
Capital labour ratio 7796	
Percentage of emoluments with reference to values added by manufacture	92.10

Industry-wise details are in Table 10 (appended).

It may be seen that 84.4% of the products of the mini industrial estates are sold within the State, 13.3% of the products are sold outside and only 2.3% of the products are exported outside the country. Manufacture of food products and beverages are the major bulk of the exports. So the bulk of the market for the products from the mini industrial estates emanate from the State itself. The products of the mini industrial estates if they suit the taste of the public at large in the State it can get ready markets for its products. A study on the taste of the consuming population and their requirements is inevitable before starting an industry. This is not being done in Kerala and is a major defect.

About 90 lakhs worth of materials have been used to produce 108 lakhs worth of materials.

In general capital output ratio of mini industries in Kerala as a whole comes to 0.92 which means that a capital of Rs. 92 has been used for producing Rs. 100 worth of output.

Capital labour ratio indicate that Rs. 7796 has been expended on an average to provide employment for an employee. Compared to large scale industries, it is very low, for, industries under factory sector has invested Rs. 18,000 for employing a person. So the ratio of mini industries to factory sector industries is 10:23 in the case of employment.

Mini industries have produced employment to 1360 persons which includes working proprietors also. On an average an employee has worked for 179 days during the year 1976-77.

An employee has produced output worth of Rs. 7948 during the year. Average output per unit during the year comes to Rs. 56,880. The value added by manufacture comes to Rs. 17.21 lakhs and value added per worker has been worked out as Rs. 1265 per year.

CHAPTER III

THE ECONOMIC VIABILITY OF INDUSTRIAL UNITS IN
MINI INDUSTRIAL ESTATES

Industrial units in Mini Industrial Estates are classified under 15 major industrial groups (Table 11). Out of 190 industrial units working in various mini industrial estates, 32 units are engaged in the manufacture of food products, i. e. 16.85% of the industrial establishments in mini industrial estates are engaged in activities related to food products which include the manufacture of sauces, jam, jelleys, bakery products, cocoa, chocolates, sugar, confectionery, edible oils and fats, coffee curing and roasting, animal feed, starch, soft drinks, carbonated water, etc. Only 11 units out of 32 units are now showing a positive investible surplus and the remaining 21 units have gone sick. However an amount of Rs. 16.3 lakhs has been utilized as fixed capital excluding land and building by these units as a whole and 183 persons find employment in these industries. On an average 5.7 persons are working in a unit and these units have worked for 140 days during the year. Industrial units manufacturing bakery products, prepared animal feeds, starch, etc., are showing a positive investible surplus. Table given below indicates the rate of investible surplus of the food processing units in the industrial estates.

TABLE 12.1

<i>Manufacturing Units</i>	<i>Mini Industrial Estates</i>	<i>Rate of Investible surplus</i>
Bakery products	Piravam	0.04
Edible oil	Perambra	0.21
Edible oil	Trikovilavattam	0.50
Edible oil	Kadakkarappally	0.37
Animal feed	Ayarkunnam	0.17
Animal feed	Sultan Battery	0.85
Animal feed	Taliparamba	0.001
Starch	Kanhangad	0.01
Other food products	Ottappalam	0.04
Do.	Edavanna	4.72
Do.	Pampady	1.06

Manufacture of bakery products in the Piravam Mini Estate and Animal Feed Unit at Thaliparamba are tending towards sickness for the rate of positive investible surplus is very low.

2. *Industrial units engaged in weaving and finishing of textiles in power loom—
Manufacture of textiles products*

There are 30 units engaged in the manufacture of textile and fibre products in mini industrial estates and only 11 units out of 30 show a positive investible surplus and the remaining 19 units have gone sick. All the units in Vazhakulam mini industrial estates are sick. One unit at Thrikkovilvattom is not sick at present but it is tending towards sickness. Industrial units at Manakkad, estate and the garments making unit at Thrikkovilvattom, Kanjoor, Ottappalam, Kanjangad, Pampady the umbrella unit at Kadakkarappally are units now showing positive investible surplus which are listed below.

TABLE 12.2

<i>Units</i>	<i>Estate</i>	<i>Rate of investible surplus</i>
1. Weaving & Finishing of cotton textile in power loom	Thrikkovilvattom	0.0004
2. Do.	Manakkad	0.05
3. Do.	Manakkad	0.12
4. Do.	Manakkad	0.03
5. Manufacture of garments	Thrikkovilvattom	0.23
6. Do.	Kanjoor	0.32
7. Do.	Ottappalam	0.05
8. Do.	Kanjangad	0.66
9. Do.	Kanjangad	0.65
10. Do.	Pampady	0.00
11. Manufacture of umbrella	Kadakompally	0.65

Garment making unit at Pampady is tending to go sick.

3. *Manufacture of Coir and Coir Products*

There is only one unit working in the mini industrial estate. This unit is situated in Mala Mini Industrial Estate investing a fixed capital of Rs. 1.1 lakhs (excluding land and building), having a working capital of Rs. 2 lakhs. This unit has an outstanding loan of Rs. 1.17 lakhs and has employed only 10 persons and has worked for 146 days during the year 1976-77, paying Rs. 10,940 by way of emoluments to workers. This coir unit has consumed materials worth Rs. 34,310 for production of coir and has produced coir products worth Rs. 42,750. Whatever is produced is

marketed within the State but the unit is running at a loss. The capital output ratio is 2.57 which means that by investing Rs. 257, the entrepreneur gets an output worth Rs. 100. The capital labour ratio is also very high at 11,000. So in this industry material consumed for production is very low capital invested is very high and the number of persons engaged in the industry is also very high in relation to the total production. The rate of investible surplus is negative and is sick at the rate of 4%.

4. *Manufacture of Wood and Wood Products—Furniture and fixtures.*

There are 11 industrial units but only 3 of them are showing a positive investible surplus. These units have invested a fixed capital of Rs. 2.8 lakhs (excluding land and building) and a working capital of Rs. 1.5 lakhs, giving employment to 82 persons; on an average the units have worked for 240 days during the year, paying a total emolument of Rs. 1.05 lakhs to the employees. On an average an employee gets only Rs. 1,292 in an year. In general, these units are placed at a disadvantageous position and show a negative investible surplus and are sick at the rate of 10% in relation to the fixed capital investment.

1. Manufacture of Veneers and Plywood at Edavanna.
2. Manufacture of Wooden Boxes and Barrels at Sultan Battery.
3. Manufacture of Wooden furniture and fixtures at Kareepra are the 3 best units which show a positive investible surplus. These three units are running well and show an investible surplus at the rate of 53%, 65% and 30% respectively compared to the fixed capital invested by these units. The capital output ratio of the industry is 0.73 and the capital labour ratio is about 3564.

An amount of Rs. 3.1 lakhs is seen as outstanding loans of the units. They have availed of the machinery worth Rs. 40,294 on hire purchase. On the whole the industrial units are run fully under borrowed money at the same time the working capital compared to capital investment is very low. Industries of similar types need more working capital for stocking materials and other facilities for keeping finished goods. Mini industrial estates are not constituted with such facilities as to provide additional space. Loans are used for, the purchase of machinery and the enterprises face lack of working capital and this leads to sickness of the units.

Wood based industries in Kerala do need some protection, and political decision has an important role to play in the development of wood industries. Kerala produces enough wood not only for industries in Kerala but also for industries situated outside the State.

The entrepreneurs engaged in the manufacture of splints and veneers are facing problems of raw materials. Soft wood is the main raw material, for which, entrepreneurs in Kerala are facing keen competition from the

well established entrepreneurs from Tamil Nadu. They purchase them in bulk from Kerala for their Industries in Tamilnadu. Our small scale entrepreneurs engaged in match industry can hardly compete with them. This problem can be handled at Government level and by policy decisions. The purchase and movement of soft wood from Kerala can be curtailed and movement of soft wood out of Kerala should be banned fully. This will help our match industry in two ways. First of all soft wood will be available for our industrialists and the soft wood products will fetch a reasonable price.

Though a small percentage of soft wood is made available by quota system, they are in no way, helpful to the infant industry. However, plans and schemes should be chalked out to reserve enough raw materials to small industrialist. Since they are labour intensive units, they deserve encouragement. If soft wood is made available to this industry (splints and veneers) it can give employment to a large number of women. In this connection, it may be suggested that interplantation of Teak and Elavu can be tried profitably in the forest areas. Teak can be used for electric posts after 10 or 12 years and Elavu can be used as soft wood. Such a scheme is desirable which requires the co-ordinated effort of the Forest Department also. It may be noted here that the Government of India has already prepared schemes of subsidizing soft wood plantations.

Industries which are related to wood and wood products need a special study. The soft wood, requirements for the present, future are to be planned now so that wood industries would not go sick in the state.

5. *Manufacture of paper and paper products, printing and allied activities.*

There are 17 units working, utilizing fixed a capital of Rs. 11 lakhs, working capital of Rs. 0.5 lakhs, employing 132 persons, giving Rs. 1.8 lakhs as emoluments to employees, showing Rs. 1.1 lakhs as outstanding loans and they have availed of the hire purchase of machinery worth Rs. 2.1 lakhs. These industries show a positive investible surplus at the rate of 8% compared to the fixed capital used by the industry. The capital output ratio is high at 1.53 and show a capital labour ratio of 8357. For this industry more working capital is required. These units, as a whole, have worked on an average for 176 days during the year.

Of 17 units working, (6 units show a positive investible surplus) 6 units are engaged in the manufacture of paper bags and only one unit at Kadalundi among the 6 units is working profitably at the rate of 18% compared to its investments under fixed capital. All other units are sick and are running at a loss. There are six industrial units engaged in printing and publishing of books, journals and periodicals. Of the six units, four of them show positive investible surplus. These industrial units have generated Rs. 2.7 lakhs as value added by manufacture showing an investible surplus of Rs. 0.9 lakhs.

TABLE 12.3

<i>Units</i>	<i>Estate</i>	<i>Rate of investible surplus</i>
1. Manufacture of paper bags	Kadalundi	0.18
2. Printing and publishing of books and periodicals	Vazhakulam	0.03
3. Do.	Ottappalam	0.85
4. Do.	Kadakkrapally	0.13
5. Do.	Thrikkovilyattom	0.73
6. Do.	Chithara	0.05

6. *Manufacture of leather and leather goods.*

There are 10 units Only two units show a positive investible surplus and they are running profitably and the remaining 8 units are sick units. These units together invested a fixed capital of Rs. 1.99 lakhs with a working capital of Rs. 1.5 lakhs and an amount of Rs. 2.57 lakhs are seen as outstanding loans. They have availed of hire purchase system for Rs. 4 lakhs. These industrial units have employed 65 persons who have worked on an average of 161 days during the year. An amount of Rs. 0.9 lakh have been disbursed as emoluments to workers. The capital output ratio is 0.53 and the capital labour ratio is 3072. This industry as the whole grows at the rate of 9% on the basis of fixed capital used by the industry.

TABLE 12.4

<i>Industries</i>	<i>Estate</i>	<i>Rate of investible surplus</i>
1. Manufacture of foot wear	Kanhangad	1.24
2. Manufacture of leather sandals & chappals	Baliapattom	2.24

7. *Manufacture of Rubber, Plastic and Coal Products*

There are 20 units working in the various mini industrial estates, of which, 7 units show positive investible surplus and remaining 13 units show a negative surplus and are sick units.

These 20 units together have invested a fixed capital Rs.19.6 lakhs, Rs.5.58 lakhs of working capital and have hire purchase machinery worth Rs.5.6 lakhs, employing 127 persons and have worked on an average of 91 days during the year showing Rs.1.62 lakhs as investible surplus, generating Rs. 3.2 lakhs as value added by manufacture. This industry in general grows at the rate of 8%.

TABLE 12.5

<i>Industry</i>	<i>Estate</i>	<i>Rate of investible surplus</i>
1. Manufacture of footwear and plastic products	Thrikovilvattom	0.10
2. Manufacture of rubber and rubber products	Chithara	2.33
3. Manufacture of rubber sheets	Kodikulam	0.05
4. Do.	Ayarkunnam	0.01
5. Do.	Pampady	0.06
6. Do.	Edavanna	0.02
7. Manufacture of plastic moulded domestic goods	Perambra	0.004

Of these 7 units now showing a positive investible surplus, the units at Perambra and at Ayarkunnam are tending towards sickness.

8. *Manufacture of chemicals and chemical products*

Now, 17 units are working in various mini industrial estates. Of 17 units, seven units are working profitably and 10 units have gone sick. Chemicals and chemical products find a better place among tiny industrial units: 171 persons find employment in these units and earn Rs. 203496 as emoluments i.e. on an average an employee has received Rs. 1248 as emoluments during the year and finds employment on an average for 172 days during the year.

Under manufacture of chemicals and chemical products Rs. 8.2 lakhs has been utilized as fixed capital, utilising Rs. 4.15 lakhs as working capital, generating Rs. 0.55 lakh as value added by manufacture. But, it shows a negative investible surplus and is being sick at the rate of 17%. It may be well to point out that these units have shown Rs. 11.6 lakhs as outstanding loans further, it has availed of Rs. 16 lakhs under hire purchase scheme and is running sick. The capital output ratio is 0.86 and capital labour ratio is 4819. Both ratios show a moderate trend.

TABLE 12.6

<i>Industry</i>	<i>Estate</i>	<i>Rate of investible surplus</i>
1. Manufacture of chemical and chemical products	Kadakkarpally	0.8
2. Do.	Baliapattom	0.17
3. Manufacture of fertilizers and pesticides	Adoor	0.25
4. Manufacture of waxes and plastics	Kodikulam	2.50
5. Manufacture of Ayurveda and unani medicines	Kunnummel	0.67
6. Manufacture of medicines	Baliapattom	0.66
7. Manufacture of other chemicals	Olamattom	0.10

9. *Manufacture of non metallic mineral products*

There are four industrial units engaged in the manufacture of non metallic mineral products and one of them is showing positive surplus and other units a negative surplus. These units together utilized Rs. 1.7 lakhs as capital and 0.8 lakhs as working capital, engaging 27 persons, giving a total emoluments of Rs. 35560 to the employees. These industrial units as a whole show a positive sign of surplus. Capital output ratio comes to 0.80 and to employ one person, Rs. 6337 has been expended. By investing Rs. 80, these industrial units have produced Rs. 100 worth of products.

TABLE 12.7

<i>Industries</i>	<i>Estate</i>	<i>Rate of I.S.</i>
Manufacture of optical lenses	Ulloor	1.28
10. <i>Basic metal & Alloys Industries and</i>		
11. <i>Metal Products.</i>		

Twenty five industrial units in mini industrial estates are engaged in metal and alloys products. This includes casting and forging of iron, manufacture of tools, metal products, welding, manufacture of furniture and fixtures, manufacture of nuts and bolts, enamelling, lacquering plating, manufacture of metal utensils, pottery, etc. Of 25 units, 11 units have a positive investible surplus and the remaining 14 units have fallen sick. These units have employed 164 persons giving employment for more than 230 days during the year.

TABLE 12.8

<i>Industries</i>	<i>Estate</i>	<i>Rate of I. S.</i>
1. Manufacture of casting and forging of iron	Baliapattam	0.29
2. Manufacture of metal products and parts	Mararikulam	0.03
3. Do.	Mala	0.85
4. Welding unit	Olamattom	3.53
5. Do.	Olamattom	0.01
6. Manufacture of furniture and fixtures	Kareepra	0.24
7. Do.	Thevalakara	0.25
8. Do.	Mannamkandam	0.03
9. Enamelling, plating	Kanhangad	0.44
10. Manufacture of metal utensils	Kodikulam	0.03
11. Do.	Thevalakkara	0.01

12. *Manufacture of machinery, machine tools etc.*

Seven industrial units are engaged in this work. 4 units show a positive investible surplus and 3 units gone sick. Manufacture of agricultural implements at Anad, Vellanad, Chithara are running profitably and the industrial machinery for food and textile industry at Arimpoor is also showing positive investible surplus and the remaining units are running sick.

These units have together utilized Rs. 5.6 lakhs giving employment to only 37 persons, generating Rs. 77,223 as value added by manufacture. This industry is running profitably now at the rate of 4%. Capital output ratio is high at 1.37 and capital labour is also very high i.e., 13,715.

13. *Manufacture of electrical apparatus and electrical machinery and parts*

There are 8 units engaged in the manufacture of electrical machinery, apparatus, bulbs and tubes, motors, insulated wires and cables, radios etc. Three of them show positive investible surplus and five of them have gone sick. An amount of Rs. 8.6 lakhs have been invested as fixed capital and Rs. 3.34 lakhs as working capital, engaging 71 persons, distributing 0.73 lakhs as emoluments to employees, generating Rs. 38 lakhs as value added by manufacture. On the whole, the manufacture of electrical apparatus in mini industrial estates shows a negative surplus. In this industry, capital output ratio and capital labour ratio are very high. These industries fall sick at the rate of 4% to the capital investment.

TABLE 12.9

<i>Industry</i>	<i>Estate</i>	<i>Rate of I. S.</i>
Manufacture of electrical apparatus	Mannamcherry	0.03
Do.	Angamaly	0.01
Manufacture of insulated wires and cables	Kadakkarappally	0.31

14. *Other Manufacturing Industries*

This includes industries such as—

1. Manufacture of optical lenses
2. Do. Jewellery and allied work.
3. Do. pin and clips.
4. Do. hair brushes and dusters, etc. etc.

Of these, manufacture of optical lenses and manufacture of brushes and dusters are showing positive investible surplus and other units have already fallen sick.

15. *Repairing Service*

There are only 2 units in the mini industrial estates engaged in repairing services; one unit is engaged in electrical repairing at Sultan Battery and the other enterprise at Kadakkarapally Mini Industrial Estate. Both the units are showing positive investible surplus.

An analysis of the various industrial units in mini industrial estates, bring to light that Thrikovilvattom, Pampady, Kadakkarapally, Sultan Battery, Ottappalam, Kanhangad, Baliapattom, Manakkad are some of the mini industrial estates where the majority of the industrial units work well showing positive investible surplus.

Capital labour ratios of industries in Mini Industrial Estates

Capital labour ratio (13715) is the highest in industries engaged in the manufacture of machinery, machine tools, etc. (except electrical machinery). This means that an amount of Rs. 13715 is required to provide employment for a person in the manufacture of machinery and machine tools, close to this comes electrical machinery, apparatus and parts (Rs. 12126). The capital labour ratio of 13 industrial groups are given in Table 13. Service industries, manufacture of wood and wood products, weaving and textile products have very low capital labour ratio. (Table 13)

Capital output ratio of various industries reveals that the manufacture of electrical machinery, apparatus and parts shows a highest capital output ratio. The capital output ratios are given in Table 14. The Table 14 reveals that manufacture of food products has the lowest capital output ratio; by investing Rs. 37 the entrepreneur gets an output worth Rs. 100. Manufacture of wood products, non-metalic minerals, chemicals and chemical products also show a capital output ratio of less than one-35% of the units in mini industrial estates show a capital output ratio of less than one which means that one unit of output can be had by investing less than one unit of capital (Table 14)

The district-wise distribution of mini industries now showing a positive investible surplus are given in Table 15. Of 71 mini industrial units now running profitably, 13 are in Quilon district and 9 each in Idukky and Kozhikode districts, 8 each in Alleppey and Cannanore, Kottayam, Ernakulam 5 each. Trivandrum, Palghat, Malappuram districts, 4 each and 2 in Trichur district.

Distribution of Mini Industrial Estates showing the number of units commissioned, number of units working, number of units having investible surplus and the names of units are presented in Table 16.

CHAPTER IV

PROBLEMS OF MINI INDUSTRIAL ESTATES

1. *Entrepreneurial Problems*

Two categories of entrepreneurs are attracted to the programme of mini industries. The enthusiastic/educated/unemployed persons who have hoped to become industrialists by investing whatever they can must come under the 1st category. Those who are attracted to this programme just because of the package of benefits offered to mini industries by the Government come under the 2nd category. This category includes persons who have prior experience in business enterprise or have some business of their own elsewhere. The interest of this category lies in seeking the benefits offered to small units and in the utilisation of such benefits for their private enterprise. So the industrial establishments run by these people will always be sick and so that they will also get the benefits offered to sick units. So most of the entrepreneurs are not borne out of genuine entrepreneurial talent or purpose but by the sudden enthusiasm generated or the package of benefits offered by the department of industries.

Industrial units and project reports

The project reports are prepared in such a haste that the reports have become (atleast in a few cases) an exercise of anticipated favourable points. Consequently the anticipated scope of industry-based on projections of production and profit, has become unrealistic. This has resulted in the failure of many small industrial units in the mini industrial estate. The speed at which these industries have been organised and commissioned is not followed up with the same enthusiasm. Many of the project reports are not based on any scientific studies. Further periodical evaluation of the working of these infant units is not attempted and the defects rectified. Benefits offered to sick units have indirectly helped fake entrepreneurs to be sick and avail of the sick benefits.

Competitiveness of the working units

Industrial units in mini industrial estates are tiny units. According to standard definition, units having a fixed capital of less than Rs. 10 lakhs come under small scale units, but more than 87% of the units in mini industrial estates have a fixed capital of less than one lakh.

Some times, it happens that the tiny units in the mini industrial estates have to compete with both large scale and small scale units which command larger resources and technical skill. Consequently competitiveness of the mini industries gets eroded and mini industries fall sick.

Raw materials

Availability of raw materials in time, at a reasonable rate, is an important factor which affects the smooth running of the industrial unit. There are a few units which depend upon Government quota for their raw materials. These industrial units report that they are not given enough materials to work through out the year. So they are constrained to stop production and wait for the next quota.

About 67 units are facing such a problem. Further, most of the units which depend on Government quota do not get it in time. This affects the viability of the units. Industrial units engaged in the manufacture of food products, cattle feeds, rubber and plastic products, metal works are facing this problem. Besides, small industrial units where packing materials are to be purchased, find it difficult to purchase it in bulk. If packing materials are purchased in bulk, the major portion of their meagre working capital will be spent and the unit will have to face the shortage of working capital. If they purchase packing materials in piece meals, it goes adversely on the cost of production and brings the margin of profit to negative.

In this connection it may be mentioned that industrial units engaged in the manufacture of plywood, splits and veneers, matches, packing materials etc., are facing acute shortage of raw materials, eventhough these materials are in abundance in the State. Being tiny units, they find it difficult to get softwood and other variety of wood from our forest. If softwood distribution, now handled by the forest department, is shifted to industries department it will be helpful to the needy small units to get enough of raw materials for their work. Softwood is purchased out right in bulk by entrepreneurs of the neighbouring State as they are financially well off. Restrictions in movement of such materials outside the State are absent at present. Consequently our entrepreneurs fail to get enough of raw materials. Political decisions and proper planning are essential in this regard. Now only a small percentage of softwood is made available to these units by quota system. Future requirements of softwood for our tiny units could be planned with the active participation of the forest department. Softwood plantation can easily be started with teak as inter plantation. Teak can be removed after 10 years for utilising it as electric posts and softwood trees after 15 years for small industries (Elavu plantation). This can be profitably tried and sufficient quantity of softwood could be made available for our industrial purpose regularly. If the State can supply sufficient quantity of softwood for rayons at throw away prices why not give the softwood to small industries which offer employment to a much larger number.

A common difficulty faced by tiny units is that the entrepreneurs have to take delivery of the quota materials at far off places. So what is gained in the price of materials is lost by the expenses incurred under transportation. It happens that such materials are available in the open market at a slightly higher price than the quota price. Hence the quota material sanctioned to

take delivery at far off places will do more harm than good when the quota price and market price are not substantially different. Again, compulsory purchase of quota materials should not be insisted upon in cases where the tiny units find it unprofitable.

Capital formation

Entrepreneurs of small scale industry every where believe that their most pressing need (problem) is lack of funds and tend to attribute their difficulties to lack of funds that is, to circumstances which they believe to be beyond their control. There are instances where lack of knowledge and under utilization of the existing capacity of the machinery, stand in the way of progress. In such cases, the finance must be accompanied by management advice and full utilisation of machinery. Nevertheless, shortage of working capital is the most pressing problem in most of the units. All the units in mini industrial estates have availed of loans for purchase of machinery or for the purchase of machinery on hire purchase. Nearly 86% of the productive capital in mini industrial estates are borrowed funds. Availability of sufficient working capital is essential for smooth working of an industrial unit. Capital loans envisaged in the project reports are very often denied by the financial institution due to various reasons.

Lack of sufficient working capital very often compels the unit to close down and the unit can hardly satisfy the conditions of the financial institutions for securing further financial aids. Industrial units ask for financial aids because they are sick and financial institutions hesitated to give further financial aid because the units are under sickness.

Machinery

The quality of the machine purchased must be worth its price. The substandard machines very often blocks smooth working. The entrepreneur is not free to purchase the machinery from wherever he likes. He is expected to select a firm from the list of firms recommended by S.I.C. for purchasing the machinery. But if the machine is found to be not worth its price or if it breaks down constantly, the advisory body is not responsible for the defects after purchase. But if the advice proves to be defective the entrepreneur alone is responsible eventhough he has no hand in the selection of machinery. Probably this arrangement is to avoid the misuse of money in the purchase of machinery by the entrepreneur but it gives room for the entrepreneur to suspect on the advisory body when the machinery goes wrong. Repairing of machinery by the personnels from the company is costly and a time consuming process. This lands the unit in sickness. 30 units maintain such an opinion. Servicing of machinery if defective is always a problem.

The machinery purchased by the units is not very often used fully. The amount invested by borrowed money for the purchase of machinery, not put under use, really goes as dead capital.

Skilled labour or the technically trained persons

Twenty-seven units have reported the non-availability of technically trained persons for their units. In fact, technically trained persons are available but they are costly for these small units. What they really want is to train their own people to run their units but the units are not financially capable of meeting the cost of training. Besides the managerial skill is a want in most of the cases.

Standardization of goods produced by mini units

It is inevitable to capture ready markets for their products. Since the products of these tiny units are not standardised by any competent authority, the consumers of such products look upon them with suspicious eyes. The units in general are incapable of meeting the expense under standardization. Standardization of products worth its quality is essential for ready market.

Market problems

If what is produced is not marketed, further production will be impossible. This leads to stoppage of work and idling of working capital in the form of finished goods. A preferential treatment of goods produced in the mini units during the infancy is inevitable. 83 units in the mini estate express the problem of marketing competition from small and large scale units is keen. Since the products of mini units are not standardised it becomes difficult for Government Department and Contractors to purchase these articles, for fear of audit objections and other administrative problems.

Power

Four units in mini estates have reported that inadequate voltage adversely effect their production.

Transport

Kerala has a well developed infrastructure. Mini industrial estates are located in places donated by Panchayats. In some cases they are far off from the main stream of life, far from the township area. The roads that lead to mini industrial estates are, very often, unserviceable. Better co-ordination of financial resources is an essential component for healthy industrial growth. It is true that the State Financial Corporations and commercial banks are helping the medium and small industries in a big way but a better co-ordination between State Financial Corporation and commercial banks will be more fruitful. A number of steps have been agreed upon recently at a 2 day state level workshop to effect better co-ordination between State Financial Corporation and commercial banks. This workshop was attended by representatives of the Industrial Development Bank of India, Kerala Financial Corporation, Reserve Bank and Commercial Banks. According to the new understanding the borrowing industrialist would, here after, submit his applications for his long term and short term capital requirements simultaneously to financial corporation and commercial banks. The corporation and bank would initiate approval of the project simultaneously or jointly. According to this, a loan application could be disposed of within a maximum of three months. It is a new step

towards better co-ordination of financial resources of industries. Here also the tiny units are often neglected, for want of proper accounting or lack of knowledge of the various schemes.

The following points emerge for consideration from what is discussed above.

1. Selection of entrepreneurs and the industrial unit must be made after a scientific study of the managerial ability of the entrepreneur and the feasibility of the unit in a locality. A state-wide industrial survey is to be initiated first to bring out the raw material resources of the state, consumption pattern of the population factors which promote and retard the various industrial units in the state, the marketable resources etc.

Periodical evaluation of the working of the industrial units by a competent authority to provide adequate data to the Director of Industries to take timely action against the bottlenecks of the developments of the industries. The recommendation and bottlenecks pointed out by such an authority should be discussed periodically at a higher level and decision taken to rectify the erring and sick units.

2. All units in the mini industrial estates should be regarded as infant units for five years and nursing at all stages till the units become capable of running on their own resources; repayment of loans should not be insisted upon during this period and financial and technical guidance should be rendered free of interest or charge. An administrative apparatus should be set up to look after the sick and erring units.

3. Raw materials for the use of mini units should be made available to them at a reasonable rate and quota materials should be made available to them at the factory site or the nearest place. Machinery purchased for the small unit should have the guarantee of five years at least and in case it is found defective it should be replaced by the company free of charges. Service charge should be free at the initial stages of five years. To look after such problem some administrative machinery is also required.

4. All products, produced by mini industries should be standardised according to its value and quality for internal markets, so that the entrepreneurs would be free to produce and sell with confidence and the consumer can purchase with confidence.

5. Quarterly evaluation of the working of the units and the collection of statistics from all the units should be made compulsory. Repayment of loans should be arranged at easy instalments.

6. Publicity of the products produced by mini industrial units should be undertaken by Government through Public Relations Department.

7. Control of movements of industrial raw materials outside the state where the entrepreneurs of the state are in dire need of them should be subjected to constant review at Government level.

8. Training of personnel for the industrial units should be arranged free of charge. Training should be imparted to all personnel with respect to machinery, technology, market, accounting etc.

SUMMARY AND CONCLUSION

Un employment in Kerala is the most important problem which demands immediate attention. The reasons for such an ever increasing number in unemployment are listed below:

(i) The cropping pattern of Kerala is not favourable for absorbing more people under agricultural sector. The perinial crops such as coconut, rubber, cardamom, coffee, pepper etc. are high value yielding but less labour intensive. In the absence of industrial development, dependence on agriculture by a majority of our population gives rise to underemployment and also disguised unemployment i.e. employment of more number of persons in agriculture than is normally required without any corresponding increase in output. Therefore, the avenues of employment in the non-farming occupation have to be provided to tackle the problem of unemployment.

(ii) The fast growing population in the state gives rise to higher proportion of persons in the younger age group in the population seeking employment.

(iii) The secondary sector which has its roots in the traditional industries such as coir, handloom, cashew etc. have not developed during the past five year plans but shows a declining trend. Thus the opportunities of new employment in the secondary sector have dwindled.

(iv) Central Government's industrial investment in the State, during the past plans, period has been very poor when compared to other states.

(v) The State has also proved its inability to utilise the financial resources from various agencies such as IDBI, ICIC, I.F.C.I., L.I.C., A.R.D.C. etc. i.e. the state has not been in receipt of its due share in proportion to its population.

Small entrepreneurs generally tend to be less capital intensive than larger ones. Development of small scale industries will have the way for creating immediate and permanent employment opportunities to the unemployed masses. This can be achieved by a massive, dynamic programme no matter whether we fail at its initial stages or not. It is in this prospective that one should look upon the programme of mini industrial estates, its failures and achievements.

This paper brings out a few facts and factors regarding the industrial units in mini industrial estates and the problems that are being faced by these units.

To begin with, it may be mentioned that two types of entrepreneurs are attracted to this programme. Those educated/unemployed persons who have started the mini industries with the hope of becoming industrialist by investing whatever finance they can invest come under the first category.

The second category includes those who are attracted by the package of benefits or financial aids that are offered to mini industries by the Government when the programme was first initiated. In this category those people who have other business, enterprises elsewhere, also rush in as mini industrialists with the main intention of making capital gain by utilising the finance offered to mini industries for their earlier enterprise. The units run by these people will always appear as sick and get the sick benefits also.

Out of 1,000 mini industrial units proposed in the 100 mini industrial estate, at the outset, only 323 units have been commissioned before April 1977.

Of the 323 units commissioned, 190 units are seen working. Of 190 units working, 119 units have fallen sick and the remaining 71 units have shown a positive investible surplus.

All the units, in the mini industrial estates are tiny units. Among small scale industries which are defined as industrial units having a capital of less than Rs. 10 lakhs, the mini unit are the most tiny units. Of 190 units working 60.5% of the industrial units are under the capital size of less than 50 thousand. 27% are in the capital size of 50 thousand to 1 lakh and 12.5% are over one lakh. Most of the units have been out of work for the major portion of the year. Only 47% of the units have succeeded in working more than 150 days during 1976-77 but 19.4% have worked for more than 250 days in the year. At the same time there are units (19.56% of the units) which have worked for less than 50 days during the year.

Of 71 working units, which show a positive investible surplus, 63% are in the capital range of less than 10 thousand and only 3% of them having capital size of over Rs. one lakh. Under mini industrial estates, the units with very small capital size have recorded positive investible surplus (which is an indicator of industrial efficiency). This brings to light that units with heavy capital investment on plant and machinery (which is very often not being utilised), are falling sick.

(Sick units may be defined as a unit which fails to generate internal surplus on a continuous basis and depend for its survival on frequent infusion of external funds).

Mini industrial units, having very small capital size tend to show positive surplus. As the capital size grows, the number of units having positive investible surplus falls. Heavy capital investment on plant and machinery which is under utilised for production, hangs as a burden on the units. Since costly plants and machinery are purchased on borrowed money/loan/hire purchase, the interest charge on the capital investment falls as a burden on the unit and the unit goes sick. Under utilization of machine capacity, consequent on the irrational purchase of unuseable machinery, is one of the reasons that leads to industrial sickness.

Present sickness of the mini industries can be summed up as follows:

(i) Small entrepreneurs, depending on external resources for financing their project, have a weak economic base.

(ii) Lack of adequate working capital in time often leads the unit for sickness;

At least double that of the fixed capital is essential for proper functioning. The relation of working capital to fixed capital varies with the nature and working of the industry. Raw material oriented industries require adequate finance to purchase raw materials which account for the bulk of the industrial expense. Labour oriented industries spend more finance for paying wages to labourers etc.

(For certain industries we have enough raw materials. But we failed to start industrial units using these raw materials in the past. It was because of the lack of capital formation in the state for running such industries. Heavy capital investment was essential to purchase costly raw materials (Eg. rubber, copra crushing etc.).

(iii) The benefits of concessions, subsidies aid loans, tax relief given by Government to small industries have not permeated to the needy small units, instead the larger units have pocketed the benefits.

(iv) Lack of managerial skill is another bottle-neck. Most of the units are run by owner managers who have neither knowledge of business practice nor skill to run the units profitably.

(v) Lack of knowledge of machinery and its various functional use by the owner-manager.

(vi) Poor training in the engineering technology causes sickness.

(vii) Employees do all kinds of jobs, personnel management, accounting, purchasing and marketing etc.

(viii) Lack of planning and co-ordination affects production and marketing.

(ix) Competition from large scale and small industries both from inside and outside the state is also keen.

(x) Absence of standardization of commodities produced by the small unit is a major hindrance in the speedy marketing of goods produced.

(xi) Absence of control of movements of industrial raw materials outside the state, and the frequent changes in the policy and in the price of inputs, lack of understanding among partners, and the inadequate concession in taxes and duties, are some of the reason for sickness.

TABLE 3

List of 100 Mini Industrial Estates

<i>District</i>	<i>Name of Estate</i>
Trivandru	1. Ulloor
	2. Varkala
	3. Anad
	4. Vellanad
	5. Andoorkonam
	6. Kadinamkulam
	7. Kattakkada
	8. Chemaruthy
	9. Marukil
	10. Uzhamalakkal
Quilon	11. Chittara
	12. Thrikkovilvattom
	13. Chadayamangalam
	14. Thevalakkara
	15. Perinad
	16. Chavara
	17. Kareepra
	18. Adeor
Alleppey	19. Kadakkarappally
	20. Mararikulam South
	21. Pandalam
	22. Mararikulam North
	23. Mannancherry
	24. Mannar
	25. Pathiyoor
	26. Nooranad
	27. Thamarakulam
Kottayam	28. Nattakom
	29. Ayarkunnam
	30. Pampady
	31. Kumaranalloor
	32. Paipra
	33. Madappally
	34. Mutholy
	35. Karukachal
	36. Manimala
	37. Erattupetta
Idukki	38. Olamattom
	39. Kodikulam
	40. Mannamkandam
	41. Rajakumari
	42. Kattappana
	43. Udumpannoor
	44. Manakkadu
	Ernakulam	45. Vazhakulam
46. Rayamangalam	
47. Piravam	
48. Puthenvelikkara	

<i>District</i>	<i>Name of Estate</i>
Ernakulam	49. Kalady
	50. Elamkunnappuzha
	51. Vengola
	52. Sreemoolanagaram
	53. Angamaly
	54. Kanjoor
	55. Thiruvamkulam
	56. Keezhamadu
	57. Poothrika
Trichur	58. Kothamangalam
	59. Edathala
	60. Mala
	61. Kattoor
	62. Arimpur
	63. Choondal
	64. Vallachira
	65. Ollur
	66. Chowghat
67. Pappinivattom	
Palghat	68. Ottappalam
	69. Vaniamkulam
	70. Pattambi
	71. Koduvayoor
	72. Kavassery
	73. Muthalamada
Malappuram	74. Tharoor
	75. Vadakkancherry
	76. Edavanna
	77. Oorakam
	78. Aliparamba
	79. Pulamanthole
	80. Kokkur
	81. Cherukavu
	82. Kottakkal
Kozhikode	83. Sultan Battery
	84. Kadalundy
	85. Perambra
	86. Kunnamangalam
	87. Kunnummel
	88. Chathamangalam
	89. Payyoli
	90. Peruvayal
	91. Naduvannoor
	92. Balussery
Cannanore	93. Balipattam
	94. Kanhangad
	95. Taliparamba
	96. Payyannur
	97. Nilswar
	98. Chengala
	99. Kolancherry
100. Thrikaripur	

TABLE 4

District-wise distribution of Mini Industrial Estates

District	No. of industrial units commissioned	No. of units working	No. of units having positive investible surplus	No. of sick units or negative surplus units
1. Trivandrum	33	15	4	11
2. Quilon	42	29	13	16
3. Alleppey	24	18	8	10
4. Kottayam	26	16	5	11
5. Idukki	30	18	9	9
6. Ernakulam	28	14	5	19
7. Trichur	28	13	2	11
8. Palghat	22	9	4	5
9. Malappuram	29	11	4	7
10. Kozhikode	33	25	9	16
11. Cannanore	28	22	8	14
State	323	190	71	119

STATE OF KERALA

MINI INDUSTRIAL ESTATES

1971-72

TABLE 10

Survey of Mini Industrial Estates 1976-77—Industrial units according to industrial classification

<i>Sl. No.</i>	<i>Code</i>	<i>Type of Industry</i>	<i>No. of units No.</i>	<i>Fixed capital Rs.</i>
(1)	(2)	(3)	(4)	(5)
1.	20-22	Manufacture of food products and Beverages	32 (16.84)	1769598
2.	26	Weaving and manufacturing of textile products	31 (16.32)	1140506
3.	26-8	Manufacture of coir and coir products	1 (0.53)	114500
4.	27	Manufacture of wood and wood products (furniture and fixtures)	11 (5.79)	302957
5.	28	Manufacture of paper and paper products, printing and allied activities	17 (8.95)	1152606
6.	29	Manufacture of leather and leather goods	10 (5.26)	234596
7.	30	Manufacture of rubber, plastic and coal products	20 (10.53)	2146108
8.	31	Manufacture of chemicals and chemical products	17 (8.95)	1000543
9.	32	Manufacture of non-metallic mineral products	4 (2.11)	187132
10.	33	Basic metal and alloys industries	6 (3.16)	392502
11.	34	Manufacture of metal products and parts except machinery and transport equipments	19 (9.99)	694000
12.	35	Manufacture of machinery, machine tools etc., except electrical machinery	7 (3.68)	535505
13.	36	Manufacture of electrical machinery apparatus and parts	8 (4.21)	953929
14.	38	Other manufacturing industries	5 (2.63)	117294
15.	97	Repair services	2 (1.05)	46350
		State Total	190 (100.00)	10788126

Sl. No.	Code	Fixed capital other than land & building		Working capital		Outstanding loans		Hire Purchase		No. of employees		Man days No.		Total Emoluments	
		Rs.	(6)	Rs.	(7)	Rs.	(8)	Rs.	(9)	Rs.	(10)	Rs.	(11)	Rs.	(12)
1.	20-22	1630340 (16.30)	1009628 (23.79)	1711446	258331	183 (13.46)	25781	164424 (10.37)							
2.	26	1079906 (10.88)	348495 (8.21)	981256	68751	240 (17.65)	39910	200145 (12.63)							
3.	26-8	110000 (1.11)	24878 (0.59)	117833	..	10 (0.74)	1460	10940 (0.59)							
4.	27	292275 (2.95)	152110 (3.59)	318270	40294	82 (6.03)	19619	105889 (6.68)							
5.	28	1103146 (11.12)	437956 (10.30)	1130096	214586	132 (9.71)	23207	182461 (11.61)							
6.	29	199698 (2.02)	153301 (3.62)	257278	40085	65 (4.78)	10463	91132 (5.75)							
7.	30	1962754 (19.78)	558741 (13.17)	1896624	565926	127 (9.34)	11728	157239 (9.92)							
8.	31	824081 (8.32)	415486 (9.79)	1163980	160453	171 (12.57)	29991	203496 (12.84)							
9.	32	171087 (1.73)	82687 (1.95)	204750	36201	27 (1.99)	5133	35560 (2.34)							
10.	33	373093 (3.76)	95595 (2.26)	668506	3000	58 (4.26)	22411	118073 (7.45)							
11.	34	675000 (6.80)	145172 (3.42)	679045	20261	106 (7.79)	16578	121974 (7.69)							
12.	35	507455 (5.11)	334679 (7.89)	730800	..	37 (2.72)	137150	55770 (3.52)							
13.	36	860930 (8.68)	334349 (7.88)	676348	7500	71 (5.22)	8468	79861 (4.46)							
14.	38	95794 (0.97)	148754 (3.52)	160339	3000	38 (2.79)	10602	43684 (2.75)							
15.	97	36850 (0.37)	845 (0.02)	31200	3500	13 (0.95)	4084	20600 (1.30)							
	State Total	9922409 (100)	4242676 (100)	10727771	1436880	1960 (100)	243090	1585238 (100)							

Sl. No.	Materials consumed Rs.	Fuels consumed Rs.	Other item of input Rs.	Total input Rs.	Value of products Rs.	Bye-products Rs.	Work done for customers Rs.	Total output Rs.
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1.	3796661	80077	56931	3933669	4007073	130718	1945	4139737 (38-30)
2.	661406	5434	5989	672829	846832	..	12350	859182 (7.85)
3.	34310	2100	..	36410	42750	..	..	42750 (0.40)
4.	301540	6268	14470	32278	367052	2573	26900	396705 (3.67)
5.	402487	8296	32413	443196	536814	..	179826	716640 (6.63)
6.	223063	2291	10065	235419	343872	2075	180	346127 (3.20)
7.	1003650	36656	78411	1118717	1177066	26000	35750	1438815 (13.31)
8.	736999	71933	91941	899673	906978	46470	14000	954848 (8.83)
9.	140682	2427	7756	150865	213738	..	..	213738 (1.98)
10.	130164	12345	16606	159115	229615	..	93487	319102 (2.95)
11.	418425	19442	19453	457320	494738	735	24702	520175 (4.80)
12.	164095	24531	5750	194376	247399	700	23500	271599 (2.50)
13.	326910	5918	14863	347691	380310	4550	1500	386360 (3.57)
14.	102909	3681	6631	113221	168172	..	8800	176972 (1.77)
15.	180	1376	1517	3073	..	..	26300	26300 (0.24)
Total	8443481	282175	362196	9087852	10158409	214001	436640	10809049 (100)

Sl. No.	Goods sold within state		Goods sold outside State		Exported		Total marketing		Value added by manufacture		Investible surplus		Capital output ratio		Capital labour ratio		Rate of investible surplus		Percentage of employments w.r.t. value added	
	Rs.	(21)	Rs.	(22)	Rs.	(23)	Rs.	(24)	Rs.	(25)	Rs.	(26)	Rs.	(27)	(28)	(29)	(30)			
1.	2960024	553564	210000	3723588	206067	41643	9809	0.39	79.79											
					(11.97)															
2.	524227	279790	..	804017	186353	-13793	4500	1.25	107.40											
					(10.73)															
3.	42750	..	..	42750	6340	-4600	11000	2.57	172.55									
					(0.37)															
4.	279523	81631	..	354154	74427	-31462	3564	0.73	142.27											
					(4.32)															
5.	519534	..	..	519534	273444	90983	8357	1.53	66.73									
					(15.79)															
6.	313786	11500	..	325286	110708	19576	3072	0.58	82.92											
					(6.43)															
7.	1176845	77552	..	1254397	320099	162860	15455	1.36	49.12											
					(18.60)															
8.	593159	111004	2000	706163	55175	-148321	4819	0.86	368.81											
					(3.20)															
9.	146195	..	..	146195	62873	27313	6337	0.80	56.56									
					(3.65)															
10.	100911	18222	..	119133	159987	41914	6433	1.16	73.80											
					(9.20)															
11.	430346	..	..	430346	62855	-59119	6368	1.30	194.06									
					(3.65)															
12.	186299	..	..	186299	77223	21453	13715	1.87	88.75									
					(4.84)															
13.	212714	..	..	212714	38669	-35192	12126	2.23	191.00									
					(2.23)															
14.	106963	27759	..	134722	63751	20067	2521	0.54	68.52											
					(3.70)															
15.	..	..	..	..	23227	2627	2835	1.40	88.69							
					(1.35)															
Total	7586276	1161022	212000	8959298	1721197	135959	7796	0.92	92.10											
					(100)															

Percentages are in the brackets.

Rate of investible surplus is estimated by dividing the amount of investible surplus per year by the cost of fixed capital excluding land and building. This has been used as an index of industrial efficiency.

TABLE 11

Mini Industrial Estates

Classification of Industrial Establishments according to industry groups and investible surplus

Sl. No.	Name of Industr	Units working		Units having positive investible surplus	
		Number	% to total	Number	% to total in industry groups
1	Manufacture of food products	32	16.85	13	40.63
2	Manufacture of textile and other fibre products	31 1	16.85	11	37.37
3	Coir and Coir products				
4	Manufacture of wood and wood products	11	5.79	3	27.27
5	Manufacture of paper and paper products printing and allied activities	17	8.96	6	35.29
6&7	Manufacture of leather, rubber and plastic products	30	15.75	9	30.00
8	Manufacture of chemicals and chemical products	17	8.96	7	41.18
9	Manufacture of non-metallic mineral products	4	2.11	1	25.00
10	Manufacture of Basic metal and alloy industry	6	3.16	4	66.66
11	Manufacture of metal products and parts except machinery and other transport equipment	19	10.00	6	31.58
12	Manufacture of machinery, machine tools except electrical machinery	7	3.68	4	57.14
13	Manufacture of electrical machinery apparatus and parts	8	4.21	3	37.50
14	Other manufacturing industries	5	2.63	2	40.00
15	Service industry	2	1.05	2	100.00
Total		190	100	71	37.37

TABLE 12

Distribution of Industrial Units in Mini Industrial Estates showing the position of investible surplus

Sl. No.	Name of Mini Industrial estate	Industry Code	Name of Industry	Investible surplus	Rate of investible surplus
(1)	(2)	(3)	(4)	(5)	(6)
1.	Perambra	202-4	Manufacture of Sauces, Jam, Jellies etc.	-24702	-1.33
2.	Urakam	204-4	Processing and grinding of cereals & grains	-1035	-0.03
3.	Sultan Battery	204-9	Other grain milling and processing activities	-63681	-0.85
4.	Piravom	205	Manufacture of Bakery products	+2050	0.04
5.	Ottappalam	205	"	-12860	-0.23
6.	Chithara	209	Manufacture of cocoa--Chocolate and sugar confectionery	-29201	-1.70
7.	Kattoor	211	Manufacture of edible oils, fats etc.	-20520	-0.51
8.	Taliparamba	211	"	-11950	-1.44
9.	Kanhangad	211	"	-877	-0.01
10.	Chathamangalam	211	"	16810	0.21
11.	Perambra	211	"	-6930	-0.09
12.	Cherukavu	211	"	-1466	-0.02
13.	Urakam	211	"	-278	-0.01
14.	Adoor	211	"	-6746	-0.14
15.	Karepra	211	"	-107992	-2.08
16.	Perinad	211	"	35263	0.50
17.	Thrikovil Vattom	211	"	-1966	-0.02
18.	Ulloor	211	"	-12034	-0.20
19.	Pandalam	211	"	19932	0.37
20.	Kadakkarappally	211	"	-5178	-0.06
21.	Kadakkarappally	211	"	4718	0.17
22.	Mannankandam	213	Coffee curing, roasting, grinding etc.	-681	-0.06
23.	Ayarkunnam	216	Manufacture of prepared animal feeds	-400	-0.001
24.	Anad	216	"	19825	0.85
25.	Sultan Battery	216	"	300	0.001
26.	Taliparamba	216	"	-15250	-0.03
27.	Taliparamba	216	"		
28.	Kanhangad	217	Manufacture of starch	375	0.01

(1)	(2)	(3)	(4)	(5)	(6)
29.	Ottappalam	219	Manufacture of food products not elsewhere classified	6347	0.04
30.	Edavanna	219	"	59386	4.72
31.	Pampady	219	"	62204	1.06
32.	Varkala	224	Manufacture of soft drinks and carbonated water	-8728	-0.16
33.	Kattoor	224	"	-29819	-0.36
34.	Vazhakulam	236	Weaving and finishing of cotton textiles in powerlooms	-5974	-0.14
35.	Vazhakulam	236	"	-5974	-0.14
36.	Vazhakulam	236	"	-5974	-0.14
37.	Vazhakulam	236	"	-5974	-0.14
38.	Vazhakulam	236	"	-5974	-0.14
39.	Vazhakulam	236	"	369	0.0004
40.	Thrikovil Vattom	236	"	-2393	-0.01
41.	Perinad	236	"	2354	0.05
42.	Manakkad	236	"	-1494	-0.02
43.	Manakkad	236	"	-2637	-0.07
44.	Kodikulam	236	"	5784	0.12
45.	Manakkad	236	"	1399	0.03
46.	Manakkad	236	"	-1414	-0.03
47.	Manakkad	236	"	-2432	-0.05
48.	Manakkad	236	"	-3799	-0.13
49.	Varkala	261.3	Manufacture of rope and cordage	-2627	+0.10
50.	Karecpra	264	Manufacture of all types of textile garments including wearing apparel	7905	0.23
51.	Thrikovilvattom	264	"	-12945	-0.84
52.	Perambra	264	"	-3005	-0.002
53.	Kayamangalam	264-1	Manufacture of readymade garments	-8565	-0.32
54.	Kanjoor	264-1	"	-1200	-0.04
55.	Pappinivattom	264-1	"	-13450	-0.75
56.	Kattoor	264-1	"	663	0.05
57.	Ottappalam	264-1	Manufacture of readymade garments	6970	0.66
58.	Kanhangad	264-1	"	24850	0.65
59.	Kanhangad	264-1	"	-9400	-0.30
60.	Baliapattom	264-1	"	-326	-0.003
61.	Pampady	264-1	"	7	0.00
62.	Pampady	265-1	Manufacture of Umbrellas	2834	0.65
63.	Kadkkarappally	268.1	Manufacture of Coir fibre and yarn	-4600	-0.04
64.	Mala				

65.	Pattamby	270	Manufacture of veneer and plywood	-1681	-0.05
66.	Edavanna	270	" "	12126	0.53
67.	Sultan Battery	272-1	Manufacture of wooden boxes, barrels etc.	12494	0.65
68.	Nattakom	274-9	Manufacture of wooden industrial goods—others	-15848	-0.56
69.	Kunnummel	276	Manufacture of wooden furniture and fixtures	-1413	-0.04
70.	Chithara	276	" "	-29603	-1.00
71.	Edavana	276	" "	-4181	-0.25
72.	Karepra	276	" "	7460	0.30
73.	Kanhangad	276	" "	-4750	-0.17
74.	Taliparamba	276	" "	-4468	-0.11
75.	Kadalundi	276	" "	-1601	-0.13
76.	Nattakom	281-1	Manufacture of paper bags	-2603	-0.05
77.	Ulloor	281-1	" "	-8534	-0.13
78.	Ollur	281-1	" "	-20385	-0.68
79.	Arimpur	281-1	" "	-2741	-0.01
80.	Rajamangalam	281-1	" "	-34601	-0.42
81.	Kadalundi	285	Printing and publishing of books journals, periodicals	8764	0.18
82.	Vazhakulam	285	" "	3606	0.03
83.	Ottappalam	285	" "	105884	0.85
84.	Perambra	285	" "	-4207	-0.06
85.	Kadakkarappally	285	" "	8867	0.13
86.	Mararikulam	285	" "	9714	0.13
87.	Olamattom	285	" "	-1022	-0.02
88.	Nattakam	289	Printing, publishing and allied activities	-48	-0.001
89.	Ulloor	289	" "	-5410	-0.16
90.	Chadayamangalam	289	" "	-603	-0.02
91.	Thrikovilattom	289	" "	4709	0.73
92.	Chithara	289	" "	2200	0.05
93.	Kanhangad	291	Manufacture of footwear except vulcanized or moulded rubber or plastic foot wear.	18725	1.24
94.	Baliapattom	291-3	Manufacture of leather sandals and chappals	-590	-0.07
95.	Sultan Battery	291-3	" "	13781	2.44
96.	Rayamangalam	291-4	Manufacture of leather cum rubber or plastic cloth sandals and chappals	-96954	-3.23
97.	Cherukavu	291-4	" "	-5436	-0.44
98.	Olamattom	291-4	" "	-10476	-0.16
99.	Kadalundi	291-4	" "	-4644	-0.93
100.	Perambra	293-1	Manufacture of leather chappals and travel goods like suitcases, bags etc.	-6475	-0.57

(1)	(2)	(3)	(4)	(5)	(6)
101.	Vellanad	299	Manufacture of leather goods not elsewhere classified	—13600	—0.59
102.	Chithara	299	"	—820	0.07
103.	Chadayamangalam	300	Tyre and tube industries	—20147	—0.26
104.	Thrikovilattom	301	Manufacture of foot wear and plastic products made by rubber	8730	0.10
105.	Chithara	302	Manufacture of rubber and rubber products	244382	2.33
106.	Chithara	302.1	Manufacture of rubber surgical and medical equipments	—11770	—0.40
107.	Ayarkunnam	302.5	Manufacture of rubber industrial and domestic goods	—7953	—0.34
108.	Kanhangad	302.5	"	—10885	—0.10
109.	Kodikulam	302.7	Manufacture of rubber sheets	5097	0.05
110.	Ayarkunnam	302.7	"	1362	0.01
111.	Pampady	302.7	"	5939	0.06
112.	Nattakom	302.7	"	—20612	—0.25
113.	Nattakom	302.7	"	—3037	—0.04
114.	Nattakom	302.7	"	—7400	—0.10
115.	Edavanna	302.7	"	4411	0.02
116.	Varkala	302.9	Rubber and rubber products (others)	—42906	—0.35
117.	Arimpur	303.5	Manufacture of polythene bags	—3070	—0.03
118.	Ottapalam	303.5	"	—7529	—0.12
119.	Taliparamba	303.5	Manufacture of polythene bags	—1303	—0.02
120.	Ayarkunnam	303.8	"	—12651	—0.17
121.	Kadalundi	303.8	"	—15161	—0.13
122.	Perambra	310	Manufacture of plastic moulded domestic goods	617	0.004
123.	Chadayamangalam	310	Manufacture of plastic moulded domestic goods	—8510	—0.35
124.	Kadakkarappally	310	Manufacture of chemical and chemical products	12621	0.08
125.	Olamattom	310	"	—13248	—0.08
126.	Baliapattom	311	"	13587	0.17
127.	Adoor	312	Manufacture of fertilizers and pesticides	9952	0.25
128.	Ayarkunnam	312	Manufacture of paints, varnishes, etc.	—2777	—0.18
129.	Kadakkarappally	312.4	"	—162395	—2.34
130.	Kodikulam	313	Manufacture of waxes and polishes	8342	2.50
131.	Ayarkunnam	313.2	Manufacture of drugs and pharmaceuticals	—13385	—0.48
132.	Kunnummel	315	Manufacture of ayurvedic and unmani medicines	39990	0.67
133.	Chithara	317	Manufacture of inedible oils	—3783	—0.07
134.	Chithara	317	Manufacture of matches	—31278	—2.07
135.	Kadakkarappally	317	"	—5698	—0.35
136.	Varkala	317	"	—3876	—0.06
137.	Anad	317	"	—600	—0.004
138.	Baliapattom	317	"	11384	0.66
139.	Olamattom	319	Manufacture of other chemicals	1063	0.10

140.	Ulloor	321-5	Manufacture of optical glasses	48039	1.28
141.	Mararikulam	322	Manufacture of earthen ware and earthen pottery	—10983	-0.42
142.	Cherukavu	326	Manufacture of structural stone goods, stone dressing and stone crushing, stone ware, etc.	—6002	0.16
143.	Kokkoor	326		—2541	-0.09
144.	Baliapattom	331	Casting and forging of iron	7870	0.29
145.	Vaniankulam	331-6	Manufacture of iron tools	—3111	-0.14
146.	Mararikulam	340	Manufacture of metal products and parts except machinery	2984	0.03
147.	Mala	340		35452	0.85
148.	Olamattom	340.7	Welding not elsewhere classified	46904	3.53
149.	Olamattom	340.7		2513	0.01
150.	Kunnummel	342	Manufacture of furniture & fixtures primarily of metal	—1255	-0.03
151.	Baliapattom	342		—6822	-0.31
152.	Taliparamba	342		—5324	-0.13
153.	Kanhangad	342		—7220	-0.24
154.	Edavanna	342		—624	-0.04
155.	Kareepra	342		10165	0.24
156.	Thevalakara	342		16002	0.25
157.	Mannankandom	342		546	0.03
158.	Perambra	343-2	Manufacture of nuts and bolts	—5618	-0.08
159.	Sultan Battery	343.4	Manufacture of metal chains	—1335	-0.03
160.	Kanhangad	344	Enamelling, japanning, lacquering, plating and polishing of metal products	14835	0.44
161.	Vallachira	345	Manufacture of metal utensils, cutlery and kitchen ware	—2910	-0.06
162.	Kodikulam	345		546	0.03
163.	Munnar	345		—8746	-0.25
164.	Kadalundi	345		—32709	-1.23
165.	Sultan Battery	345		—16269	-0.94
166.	Kareepra	345		—8593	-0.50
167.	Thevalakara	345		456	0.01
168.	Mararikulam	345-9	Manufacture of other metal household goods	—8201	-0.23
169.	Anad	350	Manufacture of agricultural implements	1034	0.06
170.	Vellanad	350		1680	0.04
171.	Chithara	350		13478	0.83
172.	Chadayamangalam	350		—797	-0.03
173.	Arimpoor	350-8	Manufacture of agricultural machinery parts and accessories	—2085	-0.04
174.	Arimpoor	353	Industrial machinery for food and textile industries	5560	0.100
175.	Uloor	359-9	Manufacture of parts and accessories and other jobbery works	—15400	-0.05
176.	Mannancherry	360	Manufacture of electrical machinery apparatus	3282	0.03
177.	Angamaly	360		3031	0.01

(1)	(2)	(3)	(4)	(5)	(6)
178.	Rayamangalam	360-4	Manufacture of electric works	-13934	-0.11
179.	Kadakkarapally	361	Manufacture of insulated wires and cables	16790	0.31
180.	Ulloor	361	"	-3126	-0.23
181.	Taliparamba	363	Manufacture of electric bulbs, tubes, etc.	-5338	-0.05
182.	Mararikulam	364	Manufacture of radios and television transmitting and receiving sets	-9078	-0.32
183.	Mala	369-8	Manufacture of electrical machinery, parts and accessories	-7793	-0.76
184.	Kadalundi	381-1	Manufacture of optical lenses	6939	0.28
185.	Sultan Battery	383-9	Manufacture of jewellery and related articles-others	-2437	-0.17
186.	Mararikulam	387-5	Manufacture of Pin, clips, etc.	-10310	-0.36
187.	Ottapalam	389-1	Manufacture of hair brushes, dusters, leather articles, etc.	9833	0.36
188.	Vanniamkulam	389-1	"	16350	0.51
189.	Sultan Battery	972	Electrical repair shop	125	0.06
190.	Kadakkarapally	979	Repairing enterprises	2502	0.07

TABLE 13

Capital Labour Ratios of Industries
(in descending order)

<i>Sl. No.</i>	<i>Name of Industry</i>	<i>Capital labour ratio</i>
1	Manufacture of machinery, machine, tools, etc, except electrical machinery	13715
2	Electrical machinery apparatus and parts	12126
3	Manufacture of leather, plastic and other products	11262
4	Manufacture of food products	9809
5	Manufacture of paper, paper products, printing and allied industries	8357
6	Metal and alloy industries	6433
7	Metal products and parts except machinery and transport equipment	6368
8	Manufacture of non metallic mineral products	6337
9	Manufacture of chemical and chemical products	4819
10	Weaving and manufacture of textile products	4760
11	Manufacture of wood and wood products, furniture and fixtures	3564
12	Service industries	2835
13	Other manufacturing industries	2521

TABLE 14

Capital output Ratios of Industries
(In descending order)

<i>Sl. No</i>	<i>Name of Industry</i>	<i>Capital output ratio</i>
1	Electrical machinery apparatus and parts	2.23
2	Manufacture of machinery, machine tools etc., except electrical machinery	1.87
3	Manufacture of paper, paper products, printing and allied activities	1.53
4	Service Industries	1.40
5	Weaving and manufacture of textile products	1.32
6	Metal products and parts except machinery and transport equipment	1.30
7	Manufacture of leather, rubber, plastic and other products	1.21
8	Metal and alloy industries	1.16
9	Manufacture of chemical and chemical products	0.86
10	Manufacture of non-metallic mineral products	0.80
11	Manufacture of wood and wood products, furniture and fixtures	0.73
12	Other manufacturing industries	0.54
13	Manufacture of food products	0.39

TABLE 15

**District-wise Distribution of Industrial Units, showing positive Surplus under Mini Industrial Estates
in Kerala 1976-1977**

Sl. No.	Name of Industry	Triv- andrum	Quilon	Alleppey	Kotta- yam	Idakki	Erna- kulam	Trichur	Pal- ghat	Mala- ppuram	Kozhi- kode	Cann- anore	State
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Manufacture of optical glasses	1										1	2
2.	Manufacture of rubber products	1	1		2	1							5
3.	Manufacture of agriculture machinery and parts	2	1										3
4.	Printing, publishing and allied activities not elsewhere classified.	2		1			1		1				5
5.	Manufacture of other edible oils and fats	1		1						2			5
6.	Weaving and finishing of cotton textiles in power looms	1			1	3	2		1				4
7.	Manufacture of garments	1											6
8.	Manufacture of footwear	1									1		3
9.	Manufacture of furniture & fixtures primarily of metal	2											3
10.	Manufacture of wooden furniture and fixtures	1											1
11.	Manufacture of metal utensils, cutlery, etc.	1				1							2
12.	Manufacture of fertilisers and pesticides	1											1
13.	Manufacture of basic inorganic and inorganic chemicals and gases												2
14.	Manufacture of umbrellas			1									1
15.	Manufacture of fabricated metal products.			1									2
16.	Manufacture of insulated wires and cables.			1									1
17.	Repairing enterprises			1									1
18.	Manufacture of electrical machinery			1				1					2
19.	Manufacture of food products					1			1				3

20. Manufacture of cattle feed.
21. Manufacture of chemical products not elsewhere classified.
22. Manufacture wares and polishes
Welding not elsewhere classified.
23. Manufacture of bakery product
24. Manufacture of industrial machinery
25. Manufacture of hair brushes, clusters etc.
26. Manufacture of veneers, plywood etc.
27. Manufacture of wooden boxes, barrels, etc.
28. Electrical repair shop
29. Manufacture of paper bags.
30. Manufacture of plastic domestic goods
31. Manufacture of ayurvedic and unani medicines
32. Manufacture of matches
33. Manufactures of iron
and steel
34. Foundaries for casting and forging of metals
35. Manufacture of starch
36. Enamelling, galvanising plating of metals

Total

4	13	8	5	9	5	2	4	4	9	8	71
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TABLE 16

Industrial units in mini Industrial Estates with positive investible surplus—district-wise and estate-wise

Sl. No.	Name of Districts	Name of Mini Industrial Estate	No. of units commissioned as on 31-3-1977	No. of units working	No. of units having positive investible surplus	Name of Industry having positive investible surplus
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Trivandrum	Ulloor	10	6	1	Manufacture of optical glasses
2	Do.	Varkala	9	4	1	Manufacture of rubber products (others)
3	Do.	Anad	8	3	1	Manufacture of agricultural machinery and parts
4	Do.	Vellanad	6	2	1	Manufacture of agricultural machinery and parts
5	Quilon	Chithara	10	9	3	1. Printing, publishing and allied activities not else where classified like envelopes, cards, etc. 2. Manufacture of rubber products not elsewhere classified. 3. Manufacture of agricultural machinery and parts
6	Do.	Thrikovilvattom	8	5	5	1. Manufacture of other edible oils and fats 2. Weaving and finishing of cotton textiles in power-looms 3. Manufacture of garments including wearing apparel 4. Printing, publishing and allied activities not else where classified such as envelopes, cards, etc. 5. Manufacture of footwear primarily of moulded or vulcanized rubber.
7	Do.	Thevalakkara	4	2	2	1. Manufacture of furniture and fixtures primarily of metal. 2. Manufacture of metal utensils, cutlery and kitchen-ware.
8	Do.	Perinad	2	2	..	
9	Do.	Chavara	1	..	..

10	Quilon	Karcpra	7	5	2	1. Manufacture of wooden furniture and fixtures, 2. Manufacture of furniture and fixtures primarily of metal.
11	Do.	Adoor	2	2	1	Manufacture of fertilizers and pesticides.
12	Do.	Chadayamangalam	8	4	..	..
13	Alleppey	Kadakkarappally	9	9	6	1. Manufacture of other edible oils and fats. 2. Printing, publishing of books, periodicals, etc. 3. Manufacture of basic inorganic and organic chemicals and gases. 4. Manufacture of umbrellas 5. Manufacture of insulated wires and cables 6. Repairing enterprises
14	Do.	Mararikulam	8	6	1	Manufacture of fabricated metal products such as tin plates, barrels, drums, etc.
15	Do.	South Pandalam	4	1	..	..
16	Do.	Mannancherry	2	1	1	Manufacture of electrical machinery, apparatus and parts such as motors, transformers, etc.
17	Do.	Mannar	1	1	..	..
18	Kottayam	Nattakom	9	6	..	..
19	Do.	Ayarkunnam	10	6	2	Manufacture of cattifeed.
20	Do.	Mutholly	1	..	..	Manufacture of rubber sheets.
21	Do.	Pampady	6	4	3	1. Manufacture of food products not elsewhere classified. 2. Manufacture of readymade garments. 3. Manufacture of rubber sheets.
22	Idukki	Olamattom	10	6	2	1. Manufacture of chemical products not elsewhere classified. 2. Welding not elsewhere classified.
23	Do.	Kattappana	1	..	..	..
24	Do.	Koodikulam	4	4	3	1. Manufacture of rubber sheets. 2. Manufacture of metal utensils, cutlery and kitchen-ware. 3. Manufacture of waxes and polishes.
25	Do.	Mannankandom	2	2	1	Manufacture of furniture and fixtures primarily of metal
26	Do.	Rajakumari	1	..	..	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
27	Idukki	Manakkad	7	6	3	1. Weaving and finishing of cotton textiles in power-looms do. do.
28	Do.	Udumpannoor	5	..	..	2. 3.
29	Ernakulam	Vazhakulam	8	7	1	Printing and publishing of books, journals, periodicals, etc
30	Do.	Rayamangalam	10	4	1	Manufacture of readymade garments.
31	Do.	Piravom	1	1	1	Manufacture of bakery products.
32	Do.	Angamaly	4	1	1	Manufacture of electrical industrial machinery apparatus and parts.
33	Do.	Kanjoor	5	1	1	Manufacture of readymade garments.
34	Trichur	Mala	10	3	1	Manufacture of fabricated metal products such as metal cans from tin plate, terene plate, etc.
35	Do.	Kattoor	10	3	..	..
36	Do.	Arimpur	5	4	1	Manufacture of industrial machinery for food and textile Industries.
37	Do.	Vallachira	1	1	..	..
38	Do.	Ollur	1	1	..	..
39	Do.	Pappinivattom	1	1	..	..
40	Palghat	Outappalam	9	6	4	1. Manufacture of food products not elsewhere classified. 2. Manufacture of readymade garments. 3. Printing and publishing of books, journals, periodicals etc. 4. Manufacture of hair brushes and clusters and feather Articles.
41	Do.	Vaniankulam	8	2	..	..
42	Do.	Patambi	3	1	..	..
43	Do.	Koduvayoor	2	..	..	..
44	Malappuram	Edavana	9	5	2	1. Manufacture of food products not elsewhere classified. 2. Manufacture of veneer, plywood and their products

Manufacture of other edible oils and fats.

45	Malappuram	10	2	1	Manufacture of other edible oils and fats.
46	Do.	5	1	..	..
47	Cherukavu	5	3	1	Manufacture of other edible oils and fats.
48	Sultan Battery	10	8	4	1. Manufacture of animal feeds. 2. Manufacture of wooden boxes, barrels, etc. 3. Manufacture of leather sandals and chappals. 4. Electrical repair shop.
49	Do.	10	6	2	1. Manufacture of paper bags. 2. Manufacture of optical lenses.
50	Do.	9	7	2	1. Manufacture of edible oils and fats. 2. Manufacture of plastic moulded domestic goods not elsewhere classified.
51	Do.	3	3	1	Manufacture of ayurvedic and unani medicines.
52	Do.	1	1	..	..
53	Cannanore	10	6	3	1. Manufacture of basic organic and inorganic chemicals and gases. 2. Manufacture of matches. 3. Foundries for casting and forging of iron and steel.
54	Do.	9	9	4	1. Manufacture of starch. 2. Manufacture of ready made garments. 3. Manufacture of rubber and plastic footwear. 4. Enamelling, galvanising, plating and polishing of metal products.
55	Do.	9	7	1	Manufacture of animal feeds.
Total		323	190	71	

Investible surplus is worked out by subtracting wages from the values added by manufacture which is difference between output and input.

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