GOVERNMENT OF KERALA
KERALA STATE PLANNING BOARD

THIRTEENTH FIVE-YEAR PLAN
(2017-2022)

WORKING GROUP ON

MEDIUM AND LARGE INDUSTRIES AND MINING

REPORT

INDUSTRY AND INFRASTRUCTURE DIVISION

KERALA STATE PLANNING BOARD
THIRUVANANTHAPURAM

MARCH2017

PREFACE

In Kerala, the process of a Five-Year Plan is an exercise in people's participation. At the end of September 2016, the Kerala State Planning Board began an effort to conduct the widest possible consultations before formulating the Plan. The Planning Board formed 43 Working Groups, with a total of more than 700 members – scholars, administrators, social and political activists and other experts. Although the Reports do not represent the official position of the Government of Kerala, their content will help in the formulation of the Thirteenth Five-Year Plan document.

This document is the report of the Working Group on Medium and Large Industries and Mining. The Chairpersons of the Working Group were Shri Paul Antony IAS and Professor Sunil Mani. The Member of the Planning Board who coordinated the activities of the Working Group was Dr. Jayan Jose Thomas. The concerned Chief of Division was Shri N. R. Joy.

Member Secretary

FOREWORD

Industrial development is crucial for the growth of any nation. It is also linked to the modernization of agriculture, development of science and technology, entrepreneurship, self-reliance in defence production, success in international trade, efficient utilization of natural resources, alleviation of poverty and unemployment and increase in per capita income and standard of living of the people. Expansion of industry and Services is essential for economic development and growth, as these are major enablers of productivity increases. Kerala has succeeded in creating the right environment for the flow of private capital, into industrial sector. Medium and Large Industries Sector have witnessed substantial hike in public investment.

As part of formulation of 13th Five Year Plan, State Planning Board constituted 43 Working Groups under different development sectors with experts/ academicians/administrators from different fields. Accordingly a Working Group on medium and Large Industries and Mining was constituted with Shri. Paul Antony IAS, ACS to Government, Industries Department and Dr. Sunil Mani, Professor, CDS as Co-Chairpersons for evolving suitable approaches for Medium and Large Industries during 13th Five Year Plan.

The committee met twice and conducted a review of Twelfth Plan Programme and made detailed deliberations on issues, present situation, strategies and prospects of Medium and large industries & Mining Sector of Kerala and delivered thoughts for a scientific, concreate and realistic plan to be pursued in 13th plan period.

We are very grateful to all members of the Committee for their participation and valuable contributions and suggestions/recommendations in the Working Group. I am very grateful for the invaluable contribution rendered by Dr. Jayan Jose Thomas, Member, State Planning Board in drafting and formulating the report. Special reference is mentioned for the valuable services received from Er. Joy N.R, Chief (I&I Division) (Convenor), Smt Prasanna Kumari. N, Deputy Director (Co-Convenor), Smt. Deepa Chandran, Assistant director and Smt. Dhanya Chandrasekhar, Research Assistant, Industry & Infrastructure Division and officers of State Planning Board for conducting meetings and co-ordinating the materials from the different members for the preparation of the report.

Co- Chairperson(1)
Shri. Paul Antony IAS, ACS to Government,

Co- Chairperson(2)
Dr. Sunil Mani, Professor, CDS

CONTENTS

LIST OF ABBREVIATIONS

CSO	- Central Statistical Office
DIPP	- Department of Industrial Policy and Promotion
EMD	- Earnest Money Deposit
EoDB	- Ease of Doing Business
GDP	- Gross Domestic Product
GSDP	- Gross State Domestic Product
IT	- Information Technology
KINFRA	- Kerala Industrial Infrastructure Development Corporation
KM	- Kilometer
KSEBL	- Kerala State Electricity Board Limited
KSIDC	- Kerala State Industrial Development Corporation
LNG	- Liquefied Natural Gas
MLA	- Member of Legislative Assembly
MNC	- Multi National Company
MSME	- Micro Small and Medium Enterprises
NSDP	-Net State Domestic Product
NSSO	- National Sample Survey Organization
PPP	- Public Private Partnership
PSEs	- Public Sector Enterprises
SC/ST	- Scheduled Caste /Scheduled Tribe

CHAPTER 1
AN OVERVIEW OF INDUSTRIAL SECTOR IN KERALA WITH A SPECIAL FOCUS ON MEDIUM AND LARGE SCALE INDUSTRIES

1. It is well known that Kerala has made spectacular achievements in land reforms, education, and health over the years after the formation of the State in 1957. With respect to economic growth, Kerala has surged ahead from being a laggard to a frontrunner among Indian States by the early 2000s. Given such a context, it is indeed a paradox that Kerala's industrial sector is relatively backward.This report aims to examine the current status, challenges and opportunities in regard to medium- and large-scale industries in Kerala.

2. A striking feature of Kerala's economy is the relatively low size of its manufacturing sector. The share of manufacturing in gross state domestic product (GSDP) of Kerala was only 7.5 per cent in 2011-12. This was considerably less than the contributions made by manufacturing sectors to gross domestic products (GDP) in India as a whole (15.8 per cent in 2011-12) and in China (31 per cent in 2012).

3. In fact, the goods-producing sectors (that is, agriculture and industry) have strikingly low shares in the overall incomes generated in Kerala. In 2011-12, agriculture and allied activities had a share of only 9.5 per cent in Kerala's GSDP, while they accounted for 13.9 per cent in India's GDP. In contrast, construction and the services sectors contribute relatively large shares to Kerala's NSDP. In 2011-12, construction and the services sectors, together,accounted for a share of 81.4 per cent in Kerala's NSDP and 66.6 per cent in India's GDP (See Table1).

4. Although manufacturing contributed only 7.5 per cent to Kerala's GSDP, this sector employed approximately 14.0 per cent of the State's total workforce in 2011-12. In comparison, the manufacturing sector's shares in GDP and employment were 15.8 per cent and 13.0 per cent respectively at the national level (see Tables 2 and 3). This points to some degree of lopsidedness in the structure of Kerala's manufacturing sector.

5. In 2011-12, out of a total manufacturing workforce of 18 lakhs in Kerala, only 3.9 lakh workers were employed in the factory sector. The factory sector, or broadly the registered manufacturing sector, refers to factories that employ more than 10 workers and operate with the aid of electric power as well as factories that employ more than 20 workers without the aid of electric power. The rest of the manufacturing workers in Kerala were engaged in the unorganized or unregistered sector. Coir and cashew processing, two major traditional industries, employed 3.8 lakh and 2.5 lakh workers respectively in Kerala.[1]Workers engaged in cashew processing accounts for a large share of employment even within the factory sector in Kerala. Most of the workers in coir and cashew-processing in Kerala are women.

6. The size of the registered manufacturing sector (which is roughly equivalent to the factory sector) is notably low in Kerala. This sector contributed only 3.5 per cent to Kerala's NSDP

[1] *Source*: Government of Kerala's *Economic Review2015*

in 2011-12, much lower than its share in India's GDP (11.2 per cent) in the same year. It is also striking that the size of registered manufacturing is lower than that of unregistered manufacturing in Kerala (See Table 1).

7. The share of registered manufacturing in Kerala's NSDP has declined from around 6 per cent in the late 1990s to 3.5 per cent in 2011-12. During the same period, the share of Kerala's registered manufacturing sector in total value added by India's registered manufacturing declined from 2 per cent to 1.3 per cent.

Structure of the Industrial Sector

8. Industrial investments in Kerala from the 1930s were mostly into chemicals-producing industrial units. Even in the late 1990s, chemicals-producing industrial units dominated Kerala's modern industrial sector. In 1995-98, chemicals and chemical products accounted for 20.7 per cent of the gross value added by Kerala's factory sector (see Table 4). This was more than the corresponding share of these industries in India's factory sector, which was 18.3 per cent (in 1995-98). Another industry that has been important in Kerala's industrial sector is rubber, plastics and petroleum products. Their share in gross value added by Kerala's factory sector was 18.2 per cent in 1995-98 (see Table 4).

9. Despite their domineering presence with respect to value added by the factory sector, chemicals, rubber, plastics and petroleum products contributed relatively less with respect to the generation of factory employment in Kerala. On the other hand, the industries that contribute significant shares to factory employment in Kerala have been food and tobacco industries (see Table 4).

10. By 2012-13, Kerala's factory sector has undergone some important changes. First, there has been a sharp fall in the relative importance of chemicals-producing industries. These industries accounted for only 8 per cent of the value added by Kerala's factory sector in 2011-12 (see Table 5). Studies had indeed shown that Kerala's chemicals-based industries faced several constraints to growth over the decades (Thomas, 2005). Refined petroleum products continue to be an important industry in Kerala accounting for 28 per cent of fixed capital and 12 per cent of value added (though only 1per cent of employment) in the State's factory sector. Rubber and plastic products contribute 11.7 per cent of value added by Kerala's factory sector in 2011-12. Industries manufacturing footwear and textiles are also important in Kerala's factory sector today (see Table 5).

11. Between the late 1990s and the early 2010s, the relative importance of food industries increased considerably, not only with respect to employment but also with respect to value added and capital invested by the factory sector. In 2011-12, food industries accounted for shares of 41.7 per cent, 20 per cent and 19 per cent in employment, value added and fixed capital respectively of Kerala's factory sector (see Table 5). A significant part of employment under food industries in Kerala is on account of cashew processing, which is a traditional industry but categorized under the factory sector (as already noted).

12. A striking aspect of Kerala's industrial structure is the virtual absence in the State of the production of basic metals, motor vehicles, pharmaceuticals and electronics hardware. Some of these industries -- motor vehicles and pharmaceuticals in particular – have been growing at fast rates in some other parts of the country, notably in the southern States of Tamil Nadu, Karnataka and Andhra Pradesh. At the same time, there is a large and growing demand within Kerala for motor vehicles, pharmaceuticals and all kinds of electronic goods.

Table 1*Shares (in per cent) of various sectors in Kerala's gross state domestic product (GSDP) and India's gross domestic product (GDP) (both at constant 2004-05 prices), 2011-12*

Sl. No	Sectors	Share in Kerala's GSDP	Share in India's GDP
1	**Agriculture & allied activities**	**9.5**	**13.9**
2	Mining and quarrying	0.4	2
3	**Manufacturing**	**7.5**	**15.8**
3a	Registered Manufacturing	3.5	11.2
3b	Unregistered manufacturing	4.1	4.5
4	Electricity, gas and water supply	1.2	1.88
Sum of sectors 2, 3 and 4	**Industry**	**9.2**	**19.6**
5	**Construction**	**12.2**	**7.8**
6	Transport, storage & communication	16.8	10.7
7	Trade, hotels and restaurants	17.9	16.1
8	Banking & Insurance	8.0	9.4
9	Real estate, ownership of dwellings and business services	11.9	9.8
10	Public administration	5.7	5.5
11	Other services	8.9	7.3
Sum of sectors 6, 7, 8, 9, 10 and 11	**Services**	**69.2**	**58.8**
	GDP/GSDP	100	100

*Source*National Accounts Statistics.

Table 2*Kerala's Workforce, by Sectors, 2011-12*

Sector	Number of workers, in million, Kerala	Share (per cent) in total workforce, Kerala	Share (per cent) in total workforce, India
Agriculture and allied activities	2.6	20.5	47.5
Manufacturing	1.8	14.2	13.0
Construction	2.1	16.5	10.6
Services	6.1	48.0	27.9
Non-agricultural activities, total	10.1	79.5	52.5
Total Workforce	12.7	100	100

*Source*National Sample Survey report on Employment and Unemployment in India, 68th Round, 2011-12

Table 3*Some Indicators on the Size of the Manufacturing Sector, Kerala and India, in 2011-12*

	Kerala	India	Kerala's share in India, in %
Number of factories, in '000 numbers	7.3	175.7	3.5
Persons engaged in factories, in 100,000 numbers	3.9	134.3	2.9
Employment in manufacturingsector, in 100,000 numbers	18.0	613.0	2.9
Number of unincorporated manufacturing enterprises, in 100,000 numbers (2010-11)	5.0	172.1	2.9
Fixed Capital, in billion Rupees	154.6	19495.5	0.8
Gross Value Added, in billion Rupees	108.0	9052.1	1.2

*Note*Kerala's share in India's population was 2.8 per cent in 2011, according to Census of India.
Source CSO (2016), p. S5-3; NSSO (2013), NSSO (2012)

Table 4*Shares of major industries in fixed capital, gross value added, and employment in Kerala's factory sector, 1995-98*

Industries (NIC 1987 codes)	Fixed capital	Employment	Value added	Value added, India
Food (20-21)	4.9	34.8	17.7	7.3
Tobacco (22)	0.8	9.3	2.2	1.6
Chemicals (30)	17.6	7.4	20.7	18.3
Rubber, plastics and petroleum products (31)	13	5.8	18.2	7.8
All Industries	100	100	100	100

*Source*Annual Survey of Industries, Central Statistical Organization.

Table 5*Industry-wise distribution of factories, fixed capital, gross value added, and persons engaged in Kerala's factory sector, 2012-13*

Industries (NIC (2008) code)	No. of factories	No of persons engaged	Fixed capital	Gross value added (GVA)	GVA share in India
Food products and beverages (10+11)	21.1	43.0	20.6	21.7	8.0
Rubber and plastics products (22)	8.6	5.9	7.4	12.5	3.1
Coke and refined petroleum products (19)	0.3	1.1	27.8	11.9	12.5
Chemicals and chemical products, pharmaceuticals, medicinal chemicals and botanical products (20+21)	5.0	4.9	7.4	10.0	15.0
Footwear, wearing apparel, leather and related products (14+15)	2.6	4.4	3.2	5.2	2.5
Printing and reproduction of recorded media (18)	2.1	1.6	4.7	5.1	0.9
Other non-metallic mineral products (23)	14.5	5.0	5.5	4.9	5.3
Other transport equipment and motor vehicles (29+30)	0.4	1.3	2.1	4.0	9.5
Computer, electronic and optical products (26)	0.6	1.4	2.6	3.5	2.1
Textiles (13)	6.1	5.9	4.4	2.9	5.8
Basic metals, fabricated metal products (24+25)	4.2	2.7	3.8	2.7	13.8
Electrical equipment and machinery (27+28)	2.2	2.4	1.1	2.2	10.6
Wood and wood products, furniture (16+ 31)	11.4	2.3	1.1	1.7	0.6
Paper and paper products (17)	1.4	1.6	1.7	1.1	1.1
Tobacco products (12)	10.6	8.9	0.1	1.1	1.3
Others	7.4	6.2	4.8	7.4	5.4
All Industries	100	100	100	100	100

*Source*Annual Survey of Industries, Central Statistical Organization.

*Note*In Kerala, food products (10) includes: processing of edible nuts including cashew, processing and blending of tea, curing, roasting, blending and manufacture of coffee and coffee products, and manufacture of bakery products.

'Other non-metallic mineral products' (23) consists of: bricks, cement, ceramic products, articles of concrete, cement and plaster.

'Others' includes: manufacture of umbrellas, medical and dental instruments, and stationery articles such as pens and pencil,

Investments

13. A major source of information onthe proposed and actual investments in large industrial ventures in India is the data on Industrial Entrepreneur Memorandums (IEMs) registered with the Secretariat of Industrial Assistance (SIA) within the Union Ministry of Industry and Commerce.[2]This data are available across States, month-wise, and is fairly up-to-date[3]. The

[2]Although consequent to the New Industrial Policy Statement of 1991 an industrial license is not required for establishing an industrial undertaking in almost all industries, any unit exceeding a threshold level of investment of Rs 10 crores in the case of manufacturing and Rs 5 crores in the case of service industries is required to file an IEM

IEM data relating to Micro, Small and Medium enterprises (MSME) is availablewith the Development Commissioner MSME[4]. We discuss the findings from the two sources separately.

Investments in the Large Enterprise Sector

14. Kerala has attracted only a small share of all investments in large-scale industrial projects in India between 1992 and 2008. There has not been any large-scale investment in the state since 2010 (see Table 6).

15. Even the proposed investments have been miniscule.The proposed investment to Kerala has shown some increasein 2013. But it is important that these proposals get converted into actual investment. In 2015 only 3 projects totaling an investment of Rs.82 crores were implemented Kerala, while a total of 439 projects aggregating to an investment of Rs.77972 crores were implanted in the country as a whole.

Table 6 State-wide distribution of large scale industrial projects implemented[1], 1992-2014
(Investment figures in Rs Crores at current prices)

	1992-2008		2009		2010		2011		2012		2013		2014	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
Andhra Prades	731	17885	82	1899	86	2185	86	2439	87	8411	76	8386	13	776
Gujarat	1424	79396	76	2195	56	4565	50	2148	153	49616	83	15478	39	4504
Karnataka	202	9885	31	524	19	1771	22	890	26	1672	24	4912	7	1729
Kerala	80	1017	1	2	0	0	0	0	0	0	0	0	0	0
Maharashtra	1156	32975	289	3499	87	1291	120	4671	87	7509	96	30266	20	2805
Tamil Nadu	491	12564	39	1267	27	1374	28	235	10	524	12	2292	3	2338
Total	**7664**	**273611**	**804**	**14691**	**636**	**29735**	**474**	**12870**	**574**	**82156**	**481**	**78497**	**131**	**17307**

Note This is based on the number of Industrial Entrepreneur Memorandums (IEMs) actually implemented; Data for 2014 is as on March 31, 2014.

Source Computed from Department of Industrial Policy and Performance (2014)

16. Foreign companies too have largely shied away from the state.According to SIA data, Kerala has attracted only 981 million dollars of foreign direct investment (FDI)cumulatively during the period from April 2000 through March 2014. Thisamounted toonly about 0.5 per cent of all FDI flowsto India during this period.[5]

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with the SIA. (http://www.doingbusinessinmaharashtra.org/Industrial_Entreprenuers_Memorandum.aspx) . It is also clarified that an IEM 'was intended purely for statistical purposes and to conduct a limited post-facto check to see whether the proposed manufacturing activity requires an industrial licence or not. It was also clarified that the procedure was not in the nature of any registration involving scrutiny of the memorandum, etc'. See the Press Note from the Ministry of Commerce and Industry, http://pib.nic.in/newsite/erelease.aspx?relid=79736 (accessed on November 22, 2016).

[3]For instance in May 2014, data are available up to March 31, 2014.See *SIA Statistics*,http://dipp.nic.in/English/Publications/SIA_Statistics/SIA_Statistics.aspx, (accessed on November 22, 2016).

[4]The major differences between the two sources of data are, first, the SIA data is available from 1992 onwards where as the MSME data is available only from 2007-08. Secondly, the SIA is available in both number and value of IEMs proposed and implemented while the MSME database reports only the number of EMs proposed

[5]See Secretariat of Industrial Assistance (2014)

17. However,the silver lining is that Kerala'srecord with respect to implementing the industrial proposals it receives is better than the national average. During the period 1992 through 2013, Kerala implemented 13 per cent of allindustrial proposals it received while the corresponding figures for Tamil Nadu, Karnataka and India as a whole were 8 per cent, 7 per cent and 11 per cent respectively (but thecorresponding figure for Andhra Pradesh was 15 per cent).

Investments in the MSME sector

18. Kerala has had a better record with respect to investment proposals in the MSME sector. During the three-year period 2007-10, Keralareceived 6.7 per cent of all investment proposals in the country in the MSME sector. Kerala's share in MSME investment proposals fell to 3.9 per cent only during the next three-year period,that is 2010-13 (although it was still higher than Kerala's share in India's population) (see Table 7). At the same time, a lion's share (about 95 per cent in 2012-15) of the MSMEinvestments proposals for Kerala is in the micro sector.

Table 7*Investment proposals in the MSME sector: Proposals received by Kerala and India*in lakh numbers

	Kerala	**India**	**Share of Kerala in India (%)**
2007-08	0.11	1.73	6.40
2008-09	0.16	1.93	8.24
2009-10	0.12	2.14	5.61
2010-11	0.10	2.38	4.28
2011-12	0.10	2.83	3.54
2012-13	0.13	3.22	4.06

*Source*Development commissioner MSME (2014)

Some Indicators on Performance of the Factory Sector

19. In general, the size of a factory in Kerala is relatively small. In 2012-13, a factory in Kerala had, on an average, 53 employees and a fixed capital investment of approximately Rupees 2.6 crores. The corresponding figures for a factory in India as a whole were 58 employees and a fixed capital investment of approximately Rupees 9.8 crores (see Table 8).

20. Capital intensity (K/L) in Kerala's factory sector is lower than the corresponding countrywide average in most of the two-digit industries. A factory employee in Kerala worked for fewer days in a year (278 days compared to the national average of 302 days), and produced less industrial output than a factory employee in India – which implies that the labour productivity (Y/L) of factory sector was lower in Kerala compared to India. The daily wage and annual earnings of a worker in Kerala was less than those of the average Indian worker (see Tables 8 and 9).

21. Lower levels of capital intensity imply that industries in Kerala are technologically less advanced than the corresponding industries in the country as a whole – and this can be a reason for the slow growth of productivity in these industries in Kerala.

22. At the same time, a unit of capital invested produced more value in Kerala than in the rest of India. Capital productivity in Kerala in 2011-12 was 1.6 times the Indian average(see Tables 8 and 9).

Table 8*Average values of some indicators relating to the Factory Sectors of Kerala and other Selected Indian States, 2012-13*

Indicators	Kerala	Gujarat	Tamil Nadu	Maharashtra	India
Fixed capital per factory, in lakhs of Rupees	262.4	1443.9	507.9	1191.5	981.6
Employees per factory, actual numbers	53.4	60.4	53.3	61.7	58.3
Fixed capital per employee, in lakhs of Rupees	4.9	23.9	9.5	19.3	16.8
Output per employee, in lakhs of Rupees	32.0	81.9	31.5	57.3	46.5
Input per employee, in lakhs of Rupees	28.5	71.1	26.0	45.9	38.8
Gross value added per employee, in lakhs of Rupees	3.5	10.8	5.5	11.3	7.8
Average salary per employee, per year, in lakhs of Rupees	1.5	2.1	1.9	3.0	2.1
Average days of employment for a factory employee, per year	277.6	310.6	303.4	306.2	302.0
Average salary per employee, per day, in Rupees	554.7	662.1	618.3	983.9	703.2
Inputs as % of output	89.0	86.8	82.4	80.2	83.3
Gross value added as % of output	11.0	13.2	17.6	19.8	16.7
Wages and salaries as % of gross value added	43.9	19.1	33.9	26.5	27.3

*Source*Annual Survey of Industries 2012-13

Table 9*Capital intensity, Labour productivity, Capital productivity and Wages per employee of Kerala and selected Indian States as indices (Index for India = 1), 2012-13*

Indicators	Kerala	Tamil Nadu	Maharashtra	Gujarat	India
Fixed capital per employee (capital intensity)	0.3	0.6	1.2	1.4	1.0
Gross value added per employee (labour productivity)	0.5	0.7	1.5	1.4	1.0
Gross value added per fixed capital (capital productivity)	1.6	1.3	1.3	1.0	1.0
Average salary per employee per year	0.7	0.9	1.4	1.0	1.0

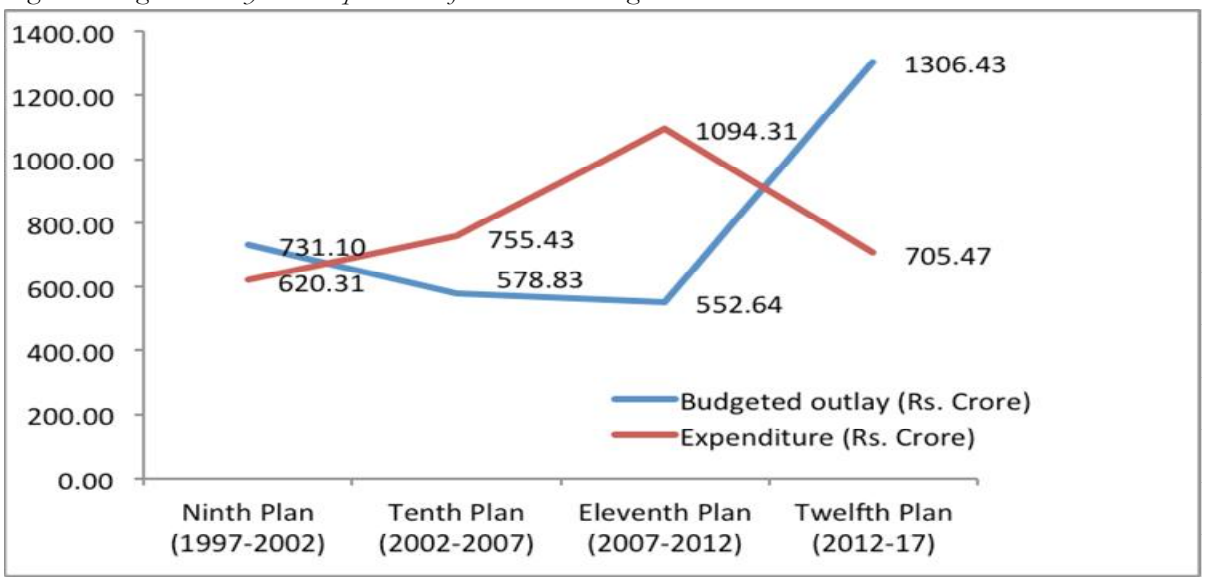
CHAPTER 2
GOVERNMENT PROGRAMMES

23. During 12th Five Year Plan period, the State Government has provided an amount of Rs.130.43 Crore for the implementation of schemes under Medium and Large Industries sector. Budgeted outlay provided and expenditure during 9th, 10th, 11th and 12th Plan periods is depicted in thetable & figure given below. Although the budgeted outlay for the 11th plan was only Rs.552.64 crore, the expenditure incurred was1049.3 crores (which was1.97 times the budgeted outlay).

Table 10*Budgeted Outlay and Expenditure of Medium & Large IndustriesSector in Four Five Year Plans*

Plan perod	Budgeted outlay (Rs. in crore)	Expenditure (Rs.in crore)
9th Plan(1997-2002)	731.10	620.31
10th Plan(2002-2007)	578.83	755.43
11th Plan(2007-2012)	552.64	1049.31
12th Plan(2012-2017)	1306.43	705.47

Figure 1*Budgeted Outlay and Expenditure of Medium & Large Industries Sector in Four Five Year Plan Periods*



24. Kerala State Industrial Development Corporation(KSIDC), Kerala Industrial Infrastructure Development Corporation (KINFRA), Public Sector Restructuring and Internal Audit Board (RIAB), Centre for Management Development (CMD), Bureau of Public Enterprises(BPE) are the major governmental agencies involved in the development of Medium and Large Industries sector of the State.

25. The Industrial Policies introduced in 2001 and 2007address major constraints facingthe manufacturing sector by facilitating and developing; Land Bank, Industrial Development Zones, Industrial Infrastructure of Global Standards, Industry SpecificClusters, Industrial Parks, Entrepreneurship Promotion Activities among students and youths, and Single

Window Clearances. Moreover, the State Government revised the Industrial policy of the State in 2015.

Vision of the Industrial Policy 2015

1. To transform Kerala into a vibrant entrepreneurial society through inclusive, eco-friendly and sustainable economic growth. The important objectives of the Policy are to:
2. Simplify regulatory procedures for setting up and operating Enterprises.
3. Mobilize Micro, Small & Medium Enterprises particularly in rural areas to achieve employment generation and utilization of local resources.
4. Ensure higher value addition of the locally available resources.
5. Create employment opportunities for skilled human resources within the State.
6. Encourage SC/ST, women entrepreneurs, Non Resident Keralites and ex-servicemen.
7. Improve industrial, allied and ancillary infrastructure through public and PPP modes.
8. Ensure sufficient land availability through land acquisition, land pooling, and Private Industrial Parks/ Estates.
9. Provide trunk infrastructure for pooled industrial land, Private Industrial Parks/ Estates.
10. Accelerate development of industrial clusters in the State in line with National Manufacturing Policy, Petroleum - Chemicals and Petro-Chemical Investment Regions, Electronics Manufacturing Clusters, Micro and Small Enterprises-Cluster Development Programme.

CHAPTER 3
MAJOR ISSUES FACING MEDIUM AND LARGE INDUSTRIES IN KERALA

Long-Term Factors and Their Influence on the Industrial Structure

26. Studies have shown that the roots of Kerala's industrial backwardness lie in the nature of industrial investments to the State from the 1930s. These investments, mostly into chemicals-producing industrial units, were built on the short-term advantage of cheap hydroelectricity and some locally available raw material. However, the growth of chemical industry in Kerala was constrained by the shortage of electricity from as early as the 1950s, as well as by problems of environmental pollution and the high cost of land. All these factors have led to a small and less-diversified industrial sector in Kerala. (Thomas 2005).

27. Secondly, the nature of Centre-State financial relations in India allowed only limited degrees of freedom for the State Governments with respect to intervention in industrial development. After India began wide-ranging economic reforms in 1991, States have greater functional autonomy with respect to, for instance, giving clearances to industrial projects. On the other hand, States have rather limited financial autonomy as the share of financial resources devolved by the Centre to the States has not shown any increase over the years. Today, Indian States compete with each other to attract investments by foreign and large Indian corporations, by giving away tax and other concessions to private industrialists, and also by showing laxity in adhering to environmental and labour standards. Given this context, it is difficult for Kerala, or for that matter any Indian State, to regulate and direct private investments to suit the larger development needs of its population. Further, it is notable that, in India as a whole, there has been a sharp fall in public investment since the 1990s. This has been a constraint to the development ofagriculture, industry and infrastructure in the country.

Availability of Land and Environmental Issues

28. Lack of availability of land for large manufacturing projects is a key constraint for industrial growth of Kerala. The price of land is also very high in the State. Kerala's population density of 895 persons per square kilometre (as per 2011 census) is almost two and a half times that of the all-India average. Further, the topography of the State (Kerala is a narrow strip of land between Western Ghats and the Arabian Sea) and the nature of its settlements are factors that increase the pressure on land. The large spurt in construction activities in Kerala during the recent decades has increased the opportunity cost of land in the State.

29. Kerala has an active civil society movement that is responsive to issues affecting the environment.There is high degree of awareness in the Stateabout the impact of industrial growth on the environment. The 'Plachimada issue' involving an MNC, Coca-Cola, is a case in point. In Plachimada, Palakkad, civil society members were able to successfully highlight the damage caused by the bottling plant to the region's water table.Panchayats are often reluctant to give clearances for industrial projects due to concerns about environmental damages.

30. At the same time, the activist role played by environmental campaigners have also had a deterring impact on industrial projects in Kerala.There have been incidents in which local people have effectively managed to close down factories alleging that they caused pollution. [6] Kerala needs legal instruments instituted by the state to counter erring industrialists.However, if local vigilantestry to enforce their own environmental standards on every new industrial project, it will have damaging consequencesfor development in the State.

Table 11*Geographical Area, Population and Population Density of Kerala and Selected Countries*

	Area, sq. km	Population, million	Persons per sq. km
Kerala	38863	34.8	895
India	3288000	1252.0	381
Sri Lanka	65610	20.5	312
Thailand	513120	67.0	131
Cuba	109884	11.3	103
Taiwan	36000	23.4	650

Infrastructure

31. The quantity and quality of physical infrastructure in Kerala has also been as an impediment to industrial growth in the State. Improvement is needed especially in the areas ofpower and roads. With respect topower generation, Kerala has been heavily dependent on hydroelectricity (almost 70 per cent), which in turn relies on the monsoons.The power transmission and distribution losses in Kerala have alsobeen high. At the same time, some of the major industries in Kerala (Travancore Cochin Chemicals, for example) are power-intensive

32. However, there have been some recent improvements in the availability of power in Kerala, which is discussed in the next section.

33. Kerala's road network needs to be expanded. The quality of roads also needs to improve (23,000 KMs of road length in the State is maintained by the Public Works Department (PWD)). Due to the inadequacies in the road transport system, movement of large container trucks across the State is not easy. This is a severe drawback as far as industrial growth is concerned. There has also been a large increase in the number of accidentsthat occur on Kerala's roads.[7]

[6]see staff reporter, 'mob vandalizes clay company', the hindu, november 17, 2008, http://www.hindu.com/2008/11/17/stories/2008111757710300.htm (last accessed may 23, 2014). more recently one more chemical company has met with the same fate. see kerala bureau, 'ngil suspends operations after alleged proof of pollution found', the hindu, october 13, 2013,http://www.thehindu.com/news/cities/kochi/ngil-suspends-operations-after-alleged-proof-of-pollution-found/article5229492.ece (accessed on november 22, 2016)

[7]According to Kerala Police, the number fatalities in road accidents increased from 2710 in 2000 to 4286 in 2012, but it has since reduced to 2526 in 2013. See

34. Recent initiatives in Kerala to improve the road network and other aspects of physical infrastructure in the State are discussed in the next section.

Labour

35. Wage rates for casual and unskilled workers in Kerala are one of the highest in the country. Therefore, Kerala will not be a suitable location for industrial activities that rely almost exclusively on cheap and unskilled labour.

36. At the same time, wage rates for skilled workers are not very high in Kerala. As shown in an earlier chapter, wages for industrial workers are relatively low in the State. Nevertheless, unit costs of production are high in Kerala, mainly due tothe low scale of production operations and the general technological backwardness of the industrial structure in the State.

37. Given the relative abundance of skilled and educated workers, Kerala should aim to set up industries that are high value adding and employs advanced technologies. With the employment of more modern technologies and with improvement in the scale of production, labour costs as a share of value added will come down in Kerala.

38. It is to be noted that Kerala has a strong trade union labour movement, and workers in the Stateare known for being conscious of their rights and responsibilities. At the same time, in general discussions in the media, labour in Kerala has often been portrayed as recalcitrant. It is also alleged that absenteeism is high among workers in the State. Mandays lost due to industrial disputes have been relatively high in Kerala. In 2009, according to an Assocham study (Jaggi, 2010), the State wasranked 5th in terms of the number of mandays lost due to strikes and lockouts.

39. However, the density of industrial disputes (measured in terms of the number of strikes and lock outs per 1000 employed workers) in Kerala has come down after 2005, and has also been less than the national average (see Figure 2).

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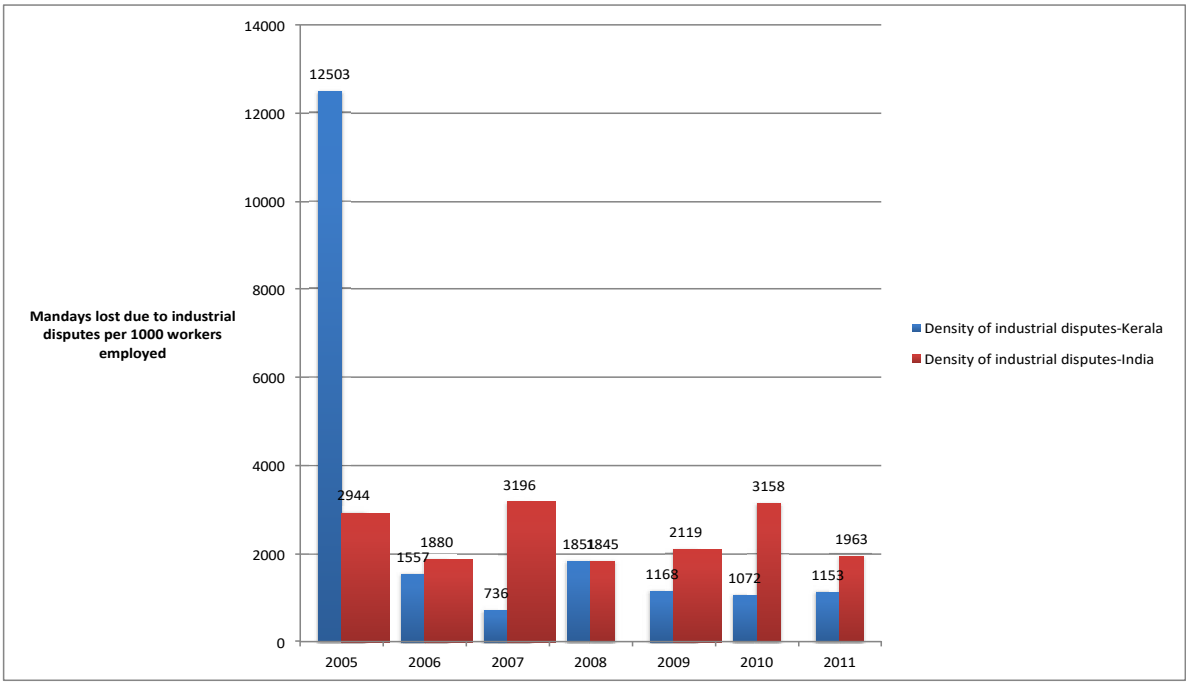
http://www.keralapolice.org/newsite/pdfs/Road/2010/comparitive/death_in_road_accidents_2013.pdf(accessed on November 22, 2016)

Figure 2*Mandays lost due to Industrial Disputes per 1000 Workers Employed, Kerala and India, 2005 to 2011*



Ease of Doing Business

40. One of the strategies envisaged in the Industrial and Commercial Policy 2011[8]of Kerala was the creationof 'effective Single Window Clearance mechanism' for obtaining speedy approval and statutory clearances for new enterprises.

41. According to a recent assessment of the implementation of business reforms by Indian States (undertaken by the Central government's DIPP), Kerala was rankedonly 20 (below other southern States) out of 32 States.

42. There are frequent occurrences of general strikes or *harthals*in Kerala. Often these are part of protests organized by political partieson various issues of concern[9]. However, strikes and *harthals* result in the loss of asubstantial number of working days,causing adverse impacts on the growth of industry and even tourism in Kerala.

[8]See http://www.kerala.gov.in/docs/policies/draftic_policy11.pdf (accessed on November 22, 2016)

[9]There are no official estimates of the number of general strikes. But according to an unofficial source, as many as 363 harthals were called either for the entire state or in specific regions during the seven-year period 2005 through 2012.See Henderson, Tony, Pressenza, http://www.pressenza.com/2012/09/india-363-hartals-in-7-years-in-kerala/ (accessed on November 22, 2016). Given the fact that a significant number of mandays are lost due to these *harthals*, it is high time that the Labour Bureau start documenting it.

CHAPTER 4
THE WAY FORWARD

43. The discussion in the earlier chapters have suggested that Kerala as a region is *not* suited for industrial units that require vast tracts of land, industries that degrade environment, or industries that are based solely on cheap and unskilled labour. Given such a context, Kerala should aim to set up a modern industrial sector that employs skilled workers in large numbers, builds on the distinctive advantages of natural resources this State, and makes effective use of advanced technologies. Modern industrial units that emerge in the State will be relatively small (with respect to the requirements of land and capital), and yet could be characterized as 'smart' (given their flexibility in production and adaptability to market conditions).

Agro- and Food-Based Industries: Building on the Richness of Natural Environment

44. Kerala should try to build industries that have deep linkages with Kerala's agricultural and natural resources. Kerala produces a rich variety of agricultural products, including rice, coconut, rubber, pepper, cardamom, banana, and pineapple. The State has enormous forest wealth. Kerala has a long coastline (of 590 km) and several inland water bodies, which are home to rich marine wealth and also offers possibilities for port-based industries. The promotion of food and agro-based industries should become an essential complement to the mission for building a *HarithaKeralam.*

45. There are possibilities for the production of a range of products based on coconut and coconut palm (which include coconut water, oil, cream, flour and protein powder), spice products such as turmeric and chilli powder, energy foods and essential oils (used in perfumery and flavouring industries). Other business opportunities include refining and packaging of vegetable oils and processing of fruits like pineapple.
46. It is important to note that a relatively large market for food and agro-based products exists within Kerala. Per capita consumption expenditures are relatively high in Kerala(which has a population of 33.3 million in 2011). There are large prospects for exports too, importantly to countries in West Asia and Southeast Asia, which have a large Indian population. Port facilities at Kochi and other important towns along the Kerala coast provide a shipment base for exports of fresh fruits, vegetables and packaged foods.

47. The growth of traditional, food and agro-based industries and of tourism can go hand in hand in Kerala, feeding on each other to create a globally recognized niche for the State in these sectors. Kerala can learn lessons from countries such as Thailand, Malaysia and Vietnam in successfully combining agriculture, agro-based industries and tourism.

48. There are good opportunities for combining tourism and agro-based manufacturing in Wayanad and Idukki districts, in particular. The government should encourage the setting up of cooperatives or other firms that produce branded Wayand/Idukki coffee, ginger and banana products.

49. There should be specific schemes for the promotion of units engaged in processing and value addition jackfruit. The government should assist these units in accessing technologies and also in marketing their products.

50. There is possibility of setting up a cold chain infrastructure for promoting agricultural exports to West Asia.The State is also trying to set up cryogenic storage warehouse based on cold energy obtained from regassifying of LNG. for converting Cochin as the entry port for all apples and other such fruit into India.

Land for Industrial Purposes

51. In Kerala, land for industrial purposes is made available to prospective entrepreneurs mainly through three agencies. One is Government of Kerala's Directorate of Industries and Commerce, which has set up a number of Development Areas (DAs) and Development Plots (DPs) in various districts of the State. Secondly, KINFRA has set up industrial parks in various parts of the State. Some of these parks focus on specific areas of manufacturing, such as textiles and food processing. Thirdly, there are Industrial Growth Centres (IGCs) set up by KSIDC.

52. It is important to ensure that the above-referred industrial parks in various locations of the State are fully operational. They should be equipped with modern infrastructure facilities and all important amenities, including availability of uninterrupted power, water, road facilities, and so on. As of now, many of the existing industrial parks suffer due to the unavailability of basic facilities.[10]Industrial parks should havecommon effluent treatment plants and other instruments to reduce pollution.

53. It is important to ensure that land available in industrial parks are used only for manufacturing activities, and are not diverted for commercial or real estate purposes. The Government should take steps to avoid situations in which industrial plots lie idle or are used for non-industrial purposes. Some entrepreneurs who we talked to feel that there should be greater transpareny in allotment of land in industrial parks.

54. There is need for greater integration between various industrial centres, which are scattered across various locations in the State. Industrial units in various parks should benefit from mutual cooperation, as suppliers of raw material or as users of finished products in each others' units. In this respect, Kerala has to draw lessons from industrial parks in South Korea and other East Asian countries.

55. The government has initiated efforts at finding more land for industrial units. There have been plans forthe creationof 'land banks.'

[10]For instance, Kochuveli industrial park in Thiruvananthapuram district, which has 2000 workers in 120 firms, dies not have a canteen facility or an ATM counter.

56. The Working Group has suggested that leaders of panchayats and MLAs should be involved in identifying land for industrial purposes in their respective villages/constituencies.In this way,local bodies and local political leaders will have better relations with and, indeed develop a sense of ownership of, industries in their locality.This will be useful particularly in resolving conflicts between civil society and industrial units on environmental issues.

57. Another suggestion by the Working group is that Kerala should explore the possibility of setting up industrial parks under privateownership. In this context, the case of approximately 386 acres of land in Mavoor in Kozhikode, which is under the control of the corporate house of the Birlas, needs to be noted. Gwalior Rayons, Birla's unit thatwas located on this plot of land, has been closed down for several years. Steps should be initiated to set upenvironmentally friendly industrieson this plot of land.

Improvements in Power and Infrastructure

58. As already noted, power generation in Kerala was heavily dependent on hydroelectricity until recently. However, in recent times, there has been an improvement in the situation. Kerala State Electricity Board Limited(KSEBL) has tied up with thermal power from outside the State to supply power to Kerala. As a result, there is no shortage of power in the State. Power availability in Kerala is no longer dependent on monsoons. KSEBL is investing massively in upgrading power qualityin the State, and has simplified application procedures for purchasing power.

59. Steps have been taken to improve water transport and facilities in ports in Kerala. For instance, imrovements in Kottayam port is expected boost inland waterways (growth of transport of containers and goods to/from Cochin Port) and thereby decongest roads. Kottayam Port is the hub port for the districts of Kottayam, Idukki and Pathanamthitta.

60. By conceptualising the 11KM Edamon-Kochi 400kVTransmission line, we can easily bring power from Kudamkulam Nuclear Power Plant and thereby reduce huge transmission loss. Land acquisition and local protest halted the progress of the project.Recently a consensus has reached to solve the issues and implement the project without any further delay.

61. Gail has laid 43 KMs of Natural Gas Pipeline in Ernakulam district up to Ambalamugal.The second phase involves laying of the NG Pipeline from Kochi to Bangalore:505 KMs of pipeline has to be laid in Kerala for the project covering the districts of Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode, Kannur and Kasaragod. Out of the 503 KMs needed for the project, 386 KMs have been completed and the work on the rest of the peoject is progressing. Therehave been public protests against the LNG pipeline, especially in the districts of Malappuram and Kozhikode. But the government and GAIL have taken steps to alleviate the concerns of the public against the project.

62. Steps have been taken to build an industrial corridor connecting Kochi and Coimbatore.

Labour

63. Schemes should be launched to create asufficiently large pool of skilled workforcefor Kerala's industrial sector. The State should set up Skill development centres, ITIs (Industrial Training Institutes) and polytechnics. It maybe noted that polytechnics have played an important role in fuelling industrial growth in countries like Singapore.

64. Kerala needs a pool of workers and professionals who are trained in specific areas of engineering and technology.For instance, there is a need for highly qualified mining experts whoare trainedto deal withillegal mining activities. There is need for a centralised system to train the existing workers in the industrial sector

65. Special attention should be devoted to encourage more women to join manufacturing activities in Kerala. For instance, industrial parks should provide amenities specifically for women workers, and also facilities forchildcare.

66. Another suggestion made by the Working Group is that workers should be provided with housing/hostel facilities especially in industrial parks that are located in remote locations.Particularly important is accommodation/ welfare facilities for migrant workers and women workers. The 'BhavanamKeralam' project launched by the State government is expected to contribute substantially in this respect.

Nurturing Entrepreneurship

67. As already noted, Kerala should aim to set up a modern industrial sector, which comprises units that are relatively small and 'smart.'The state should encourage entrepreneurs, especially young entrepreneurs, to enterthe manufacturing sector

68. Despite the general backwardness of industrial sector in the State, there are a significant number of successfully running manufacturing enterprises in Kerala. These include firms such as Synthite, Terumo Penpol, Plant Lipids, Kerala Solvent Extractions Limted, Dentcare, Agappe Diagnostics, AkayFlavours& Aromatics, Dynamic Techno Medicals Private Limited, PK Steels, Active Char, SFO Technologies, and SciGenom Labs.Most of these firms manufacture high technology products, and are successful in both domestic and export markets. For instance, SFO Technologies is engaged in the fields of digital electronics, power supplies and Optronics. Terumo Penpol manufactures blood bags, and is a leading player in this field. Synthite manufactures value added spice extracts (oleoresins) and essential oils.

69. To promote entrepreneurs, the government should take steps to improve the ease of doing business in the State. Government is resolutely moving on massively overhauling systems, to ensure greater ease in this regard.Legislative amendments, a Common Application Form, making the process online, and institutinga standing mechanism in KSIDCfor EoDB are the new initiatives of Government of Kerala.The clearance system for industrial projects should

be friendlier for potential entrepreneurs. There should be agencies in the State that provide seed funding for entrepreneurs.

70. There has been some growth of start-up units in Kerala in recent years,but much of thisgrowth has been that of IT start-ups. There is need for promotingstart-ups in the area of manufacturing too.

71. There is a large body of Malayalee engineers and professionals who have worked with the latest technologies and management practices in different parts of the world. The government should encourage some of them to return to Kerala and start enterprises in the State.

72. Women's self-help groups, notably *Kudumbashree*, can play an important role in setting up industrial units in the State. Currently, most of the *Kudumbashree* units are using conventional/rural technologies. The government should assist these units to access latest and low-cost technologies with the support of academic and scientific organizations. The government should also help in marketing products manufactured by Kudumbashree units.

73. Small enterprises face difficultiesin participating in government tenders due to tough criteria set such as presenting balance sheet for three years, huge EMD, and big tender fee. There have been cases in which engineering startups from Kerala, which have won widespread recognition, have not been allowed to participate in government tenders in the State.
74. Receiving early stage funding is a major challenge for startups. They are also compelled to pay large consultancy fees to chartered accountants and so on.The government should provide some assistance to startups in these areas.

Commerce and Marketing

75. The State should consider launching specific schemes to market manufactured goods in Kerala. These include:

76. National/ International exhibitions to introduce products, services and technologies produced by enterprises in Kerala to national and international buyers.

77. Assistance to enterprises to participate in major trade fairs and exhibitions in India and abroad.

78. Enterprise delegations from the State will be encouraged to visit national and international business forums.

Linkages with Academic Institutions and PSUs

79. There are a number of Central and State public sector units (PSUs) in Kerala, which are engaged in various areas of manufacturing. The State also has a number of research institutions, engineering colleges and other technical institutes.

80. The growth of manufacturing in Kerala can benefit from building strong links with academic and research institutions in the State.

81. Indian Space Research Organization (ISRO) in Thiruvananthapuram has been nurturing a number of small and medium firms in the State,which supply important engineering components and ancillaries to ISRO.

82. State and Central PSEs in Kerala should nurture the growth of small and medium firms. There are possibilities for setting up a hub ofsmall and medium firms in the Alwaye-Kochi region. These firms should work closely with, and produce ancillaries and components for, chemical and engineering PSEs in that region.

83. Academic institutions in the State canhelp the development of manufacturing in a number of ways. They should set up incubators and product development centres,aiding the growth of start-up units by engineering students. APJ Abdul Kalam Technological University (KTU) has already taken steps in this direction.

84. The laboratories and testing facilities in engineering colleges and technical institutions in Kerala should be made available tosmall and medium enterprises in the State. Small and medium enterprises cannot afford to install testing facilities within their own units. Many of the industrial parks in the State do not have such facilities either.

85. Industrial units should maintain close relations with academic and technical institutions in the neighbouring region. This will make it easy for these enterprises to be aware of, and have access to, advanced technologies.

86. Industrial units and academic institutions should jointly maintain a register (preferably electronic, and shares online) of technology issues they face on a daily basis. Students and teachers in academic institutions can help industries resolve their technology issues. At the same time, such a 'Problem Bank' (of technology issues) will also enrich teaching and research in engineering in Kerala.

87. Students and teachers from technical institutions should be encouraged to spend a few weeks every year with industrial units. PSEs in Kerala should evolve an internship programme for engineering students.

Possibilities in Other Areas

88. A liquified natural gas (LNG) terminal began operations in Kochi in 2013. The terminal has capacity to store and distribute 5 million tonnes of LNG per annum. Currently, this terminal is operating at very low levels of capacity utilization. Kerala's industrial sector should make good use of the availability of LNG from this terminal. LNG can be used as a fuel in a number of industries. If the output from the LNG terminal is reached all over Kerala, it will give a big boost to industrial fortunes of the State.

89. There are large possibilities in Kerala for shipping and port-based industries. Two major ports in Kerala – Vallarpadom in Kochi and Vizhinjam near Thiruvananthapuram – are at various stages of completion. Once fully operational, these major and various minor ports in Kerala can become an important source of industrial growth. Cities in Kerala such as Kochi and Thiruvananthapuram should leverage on their connectivity with seaport and airport.

Petrochemical Park

90. KINFRA intends to develop a Petrochemical Park of international standards at Ambalamughal, in Ernakulam District Kerala. The Petrochemical Park will make use of polypropylene produced by Cochin Refineries Limited (CRL) as part of the latter's expansion plans. It is proposed in 450 acres of land owned by FACT in Ambalamughal, Kochi. This region already has a large refinery, fertiliser and chemical factories, an LNG Terminal, and a Bulk Terminal and International Container Transhipment Terminal (ICTT) (in Vallarpadam).

91. This Propylene Derivatives Petrochemical Complex will promote the domestic manufacturing of specialty propylene derivatives-based products, such as acrylic acids and acrylates used in plastics, paints, coatings, adhesives, inks and textiles.

92. The petrochemical Park will offer single-window clearance facility, environmentally friendly infrastructure, and common infrastructure facilities including laboratories and common effluent treatment plant.

Logistics

93. Logistics is another area in which Kerala has the potential to emerge as a serious player. The faster diffusion of E-commerce and the emergence of the so called 'platform economy' in general (along with the opening of theVizhinjam International Seaport within a few months) will lead to increased demand for logistical services. It is clear that with better facilities for cold chain management and logistics, food-and agro-processing industries in Kerala will also grow much faster.

Mining

94. There is a need to stop illegal mining activities in Kerala.At the same time, the State should evolve a scientific policy for mapping resources and regulatingillegal mining activities.

95. Offshore Sand Mining is another long-term investment that Government is working on for supplying the sand requirements of the State.Also steps have been taken towards de-silting of reservoirs for supplying clay to clay-based industries and enhancing catchment size.

96. Manufacturing units in Kerala should try to gain from the growth of solar energy installations in various parts of the country.

Electronics and Semiconductor Industry

97. The State government is committed to building a strong electronic hardware industry in Kerala. With this objective in mind, it is setting up the following industrial parks:
    1. Electronics Hardware Park at Amballur in Ernakulam.
    2. Electronics incubator at Infopark Cochin.
    3. Defence park for the manufacture of defence/aerospace/ electronic products at Palakkad
    4. Electronic manufacturing clusterat Kakanad.

99. In addition, the capacities of KELTRON will be strengthened.KELTRON will try to establish itself as a major player in the area of defence electronics.

100. The State will also facilitate the creation of design capabilities in specific areas such asauto electronicsand printed electronics.

101. The State is committed to building a strong semiconductor industry in Kerala.

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ANNEXURE 1

Average values of some indicators relating to the Factory Sectors of Kerala and India, 2012-13

Indicator	Food products (10)		Tobacco (12)		Textiles (13)		Footwear (152)	
	Kerala	India	Kerala	India	Kerala	India	Kerala	India
Fixed capital per factory, in lakhs of Rupees	248.7	381.8	2.6	159.4	187.2	643.2	325.5	236.6
Employees per factory, actual numbers	109.7	44.1	44.9	125.4	51.9	76.3	67.4	94.1
Fixed capital per employee, in lakhs of Rupees	2.3	8.7	0.1	1.3	3.6	8.4	4.8	2.5
Output per employee, in lakhs of Rupees	11.5	45.1	0.5	7.7	9.6	22.0	35.0	14.5
Input per employee, in lakhs of Rupees	9.8	40.8	0.0	4.7	7.9	17.9	29.0	12.1
Gross value added per employee, in lakhs of Rupees	1.7	4.3	0.4	3.0	1.7	4.1	6.0	2.4
Wages per employee, per year, in lakhs of Rupees	0.8	1.4	0.4	0.6	1.4	1.4	1.6	1.2
Average days of employment for a factory employee, per year	255.9	286.1	253.5	291.9	295.3	322.5	299.2	299.4
Salary per employee, per day, in Rupees	307.1	502.0	155.1	189.5	461.0	421.9	544.0	401.9
Inputs as % of output	85.3	90.5	9.6	60.9	82.1	81.3	82.7	83.5
Gross value added as % of output	14.7	9.5	90.4	39.1	17.9	18.7	17.3	16.5
Wages and salaries as % of gross value added	46.5	33.5	91.9	18.4	79.2	33.0	26.9	50.2

Source Annual Survey of Industries 2012-13

ANNEXURE 2

Average values of some indicators relating to the Factory Sectors of Kerala and India, 2012-13

Indicator	Refined petroleum products (192)		Chemicals (20)		Rubber and plastics (22)		All industries	
	Kerala	India	Kerala	India	Kerala	India	Kerala	India
Fixed capital per factory, in lakhs of Rupees	23615.6	18795.9	537.1	1295.5	226.1	479.6	262.4	981.6
Employees per factory, actual numbers	192.0	84.4	53.1	55.5	37.1	42.5	53.4	58.3
Fixed capital per employee, in lakhs of Rupees	123.0	222.8	10.1	23.4	6.1	11.3	4.9	16.8
Output per employee, in lakhs of Rupees	1249.1	1474.6	54.9	74.6	48.4	36.0	32.0	46.5
Input per employee, in lakhs of Rupees	1211.6	1304.8	45.7	60.5	41.0	30.3	28.5	38.8
Gross value added per employee, in lakhs of Rupees	37.5	168.7	9.3	14.1	7.4	5.8	3.5	7.8
Wages per employee, per year, in lakhs of Rupees	7.4	8.2	5.2	2.9	2.3	1.9	1.5	2.1
Average days of employment for a factory employee, per year	355.4	340.3	334.0	315.1	311.3	307.2	277.6	302.0
Salary per employee, per day, in Rupees	2091.4	2420.9	1550.4	922.1	754.7	603.9	554.7	703.2
Inputs as % of output	97.0	88.5	83.1	81.1	84.7	84.0	89.0	83.3
Gross value added as % of output	3.0	11.4	16.9	18.9	15.3	16.0	11.0	16.7
Wages and salaries as % of gross value added	19.8	4.9	55.9	2060.5	31.7	3222.1	43.9	27.3

*Source*Annual Survey of Industries 2012-13

ANNEXURE 3

PROCEEDINGS OF THE MEMBER SECRETARY
STATE PLANNING BOARD
(Present: Sri. V. S. Senthil IAS)

Sub: Formulation of XIII Five Year Plan (2017-2022) – Constitution of Working Group – **Medium and Large Industries and Mining -** reg.

Ref: Note No. 260/2016/PCD/SPB dated 06.09.2016 of the Chief (i/c),PCD, SPB

ORDER NO.SPB/295/2016/I&I (WG-2)Dated:20.09.2016

As part of formulation of XIII Five Year Plan, the State Planning Board has decided to constitute Working Groups to formulate draft proposals in the various major development sectors and sub sectors. Resource persons including Professionals, Administrators and Experts connected with the sectors were identified as members of the Working Groups.Accordingly, the **Working Group on Medium and Large Industries and Mining**is hereby constituted with the following members.

Co-Chairperson

Sri. Paul Antony IAS,Additional Chief Secretary to Government,Industries Department, Government Secretariat, TVPM

Co-Chairperson

Dr. Sunil Mani, Professor, Centre for Development Studies, Thiruvananthapuram

Members

1. Dr. M. Beena IAS, Managing Director,Kerala State Industrial Development Corporation (KSIDC), Keston Road, Kowdiar P.O, TVPM
2. Managing Director, Kerala Industrial Infrastructure Development Corporation (KINFRA),Kinfra House, TC.31/2312, Sasthamangalam, TVPM
3. Director,Directorate of Mining & Geology Department, Kesavadasapuram, Pattom Palace. P.O, TVPM
4. Sri. C. Balagopal,Senior Advisor, Terumopenpol Pvt. Ltd.,PB.No. 6105, 1-2, Jawahar Nagar, TVM- 695003
5. Sri. V. Noushad, Managing Director, VKC Footwear, Veekesy Rubber Industries, VKC tower, NH 17,Kolathara, Kozhikode
6. Dr. AbhilashSuryan,Associate Professor, Mechanical Engineering, Government College of Engineering Thiruvananthapuram
7. Prof. ThajudinAhamed, Government College of Engineering, Wayanad
8. Dr. Jisha V. R., Department of Electrical Engineering, Government College of Engineering Thiruvananthapuram
9. Sri. K. N. Gopinath, Kottakkal House, Kuttikattukara PO., Pathalam, Eloor, Ernakulam 683504

Convener

Er.Joy N.R., Chief, Industries & Infrastructure Division, KSPB

Co-Convener

Deputy Director, (Medium & Large Industries Sector) Industry & Infrastructure Division, State Planning Board

Terms of Reference

1. To review the development of the medium and large industries sector with emphasis as to progress, achievements, present status and problems under its jurisdiction during the 11th and 12th Five Year Plan periods.
2. To evaluate achievements with regard to the plan projects launched in the medium and large industries and mining sectors, both by the State Government and by the Central Government in the State during these plan periods.
3. To list the different sources of data in regard to the medium and large industries and mining sectors and provide a critical evaluation of these data sources, including measures for improvement.
4. To identify and formulate a set of output and outcome indicators (preferably measurable) for the medium and large industries and mining sectors and base the analysis of the previous plans on these indicators.
5. To outline special problems pertaining to the medium and large industries and sectors.
6. To suggest, in particular, a set of projects which can be undertaken during the 13th Plan period in the medium and large industries and mining sectors.

Terms of Reference (General)

1. The Chairperson is authorised to modify Terms of Reference with the approval of State Planning Board. The Chairperson is authorised to invite, on behalf of the Working Group, experts to advice the Group on its subject matter. These invitees are eligible for TA and DA as appropriate.
2. The Working Group will submit its draft report by 1st December 2016 to the State Planning Board.
3. The non- official members of the Working Group will be entitled to travelling allowances as per existing government norms. The Class I Officers of GOI will be entitled to travelling allowances as per rules if reimbursement is not allowed from Departments.

Sd/-
MEMBER SECRETARY

To

The Members concerned

Copy to:-

1. The Accountant General, Kerala (A&E) with C/L
2. The Sub Treasury Officer, Vellayambalam.
3. The PS to the Hon. Vice Chairman, State Planning Board.
4. PA to Member Secretary

5. CA to Member (JJT)
6. All Divisions, State Planning Board.
7. The Sr. Administrative Officer, State Planning Board.

Forwarded by Order
(Sd/-)
Chief (Industry & Infrastructure Division)