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GROWTH AND PERFORMANCE OF MANUFACTURING UNITS IN KERALA

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ABSTRACT: *This paper examines the current scenario of manufacturing units in Kerala, with focusing mainly on measuring and analyzing the growth, productivity and some important ratios of industrial production in Kerala. The growth of manufacturing units were examined with the use of five variables; Number of factories, Invested capital, Net Value added, Profit and Gross capital formation. Material and labour productivity were calculated and studied to have a picture about Kerala manufacturing sector and the ratios such as cost to create one job, share of wages in value added, average wage, productivity of each employee and incremental capital output ratio were computed to have an understanding on the sector in Kerala. Secondary data which is collected from Annual Survey of Industries published by Ministry of statistics and program implementation, Government of India for five years were collected and used in the study and data are analyzed for the period 2010-15.*

Keywords: ASI, Growth, Manufacturing Sector, Performance, Productivity.

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INTRODUCTION

Manufacturing industry refers to any business that transforms raw materials into finished or semi-finished goods using machines, tools and labor. Manufacturing sectors include production of food, chemicals, textiles, machines and equipment. According to Standard Industrial Classification "the branch of manufacture and trade based on the fabrication, processing, or preparation of products from raw materials and commodities. This includes all foods, chemicals, textiles, machines, and equipment, all refined metals and minerals derived from extracted ores, all lumber, wood, and pulp products."

Manufacturing Industry in India has gone through various phases of development over the period of time. The Indian Manufacturing sector currently contributes 16-17% to GDP and gives employment to around 12% (2014) of the country's workforce.

Latest statistics of Indian manufacturing sector shows that;

- Indian manufacturing sector's Gross Value Added at basic prices based at current prices is expected at US$ 388.01 billion in 2017-18 estimates.
- Manufacturing sector is estimated to have grown at a Compound Annual Growth Rate of 4.34 per cent between Financial Year 2012 and 2018.
- The Wholesale Price Index, in respect of manufactured goods grew 4.4 per cent 2016-17.
- Quarterly Gross Value Added at basic prices from manufacturing sector grew by 10.92 per cent in the third quarter of Financial Year 2018.
- The manufacturing component of the Index of Industrial Production recorded 4.4 per cent growth in Financial Year 2017 and 8.7 per cent in January 2018.

(Source: Central Statistics Office, Ministry of Statistics and Programme Implementation, India)

Kerala holds second rank in the Investment Climate Index followed by Karnataka, as per a policy research working paper by the World Bank. The state stands second due to its world-class infrastructure and well-trained human resource pool.

The following are some of the major initiatives taken by the government to promote Kerala as an investment destination:

- The Kerala government has decided to propose the tax reduction from 14.5 per cent to 5 per cent for attracting investments across Automated Robotic Car Parking System, during 2016-17.

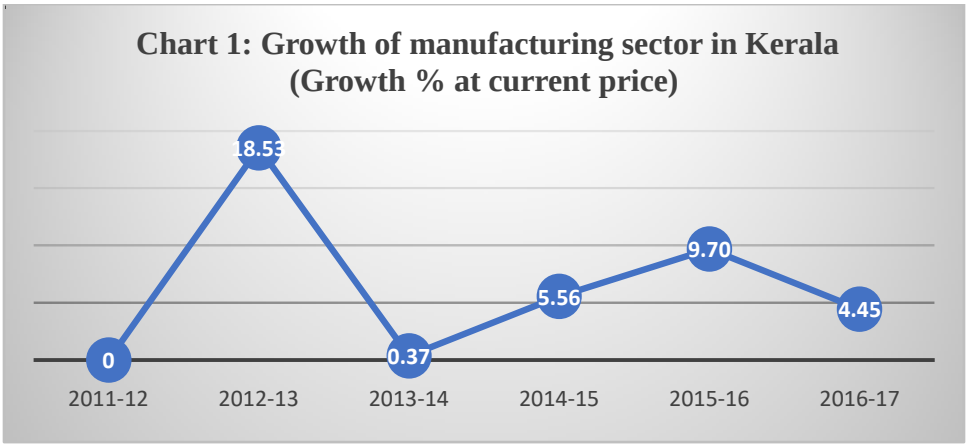
- Under the National Mission on Food Processing (NMFP) scheme, 23 projects were sanctioned during 2015-16, by the state government. Moreover, a total of 2 projects each were sanctioned under the Mega Food Parks scheme, Food Testing Laboratory Scheme as well as Research & Development Scheme, during 2015-16.
- The National Coir Research & Management Institute (NCRMI), a state government organisation, is following up on a potential deal with Saudi Aramco for a new technology that can help cultivate crops in saline and arid conditions.
- The State Tourism Department is developing eco-friendly, rural tourism packages in Kumarakom, Wayanad, Kovalam and Muziris heritage circuit.

The following table 1.1 shows the growth of manufacturing sector in Kerala as a contribution to Gross State Domestic Product.

Table 1: Growth of manufacturing sector in Kerala

Year	Contribution to GSDP (in crores)		Growth (%)	
	At constant price	At current price	At constant price	At current price
2011-12	34204.04	34204.04	0	0
2012-13	38469.15	40541.45	12.47	18.53
2013-14	36680.87	40691.29	-4.65	0.37
2014-15	37727.60	42953.81	2.85	5.56
2015-16	42241.48	47118.37	11.96	9.70
2016-17	43166.53	49213.39	2.19	4.45

Source: Economic Review, Government of Kerala, Various years.



From the chart we can understand that Kerala manufacturing sector is growing, but at a diminishing rate.

STATEMENT OF THE PROBLEM

Manufacturing in India has emerged as one of the main and important sector which helps the country to grow faster. Recently our Prime Minister of India, Mr. Narendra Modi, had launched the 'Make in India' program to place India on the world map as a manufacturing hub and give global recognition to the Indian economy. India is expected to become the fifth largest manufacturing country in the world by the end of year 2020. While coming into the picture of Kerala, the economy witnessed a slowdown in industrialization compared to other states in India. As per the quick estimates of Gross Domestic Product for 2016-17 by the economic and statistics department the manufacturing sector of Kerala grew by 4.45 percentage at current prices compared to 9.70 percentage in the previous year. This statistics give a clear cut picture of downward progress of manufacturing sector in Kerala.

This creates a challenge into the study of growth and performance of manufacturing units in Kerala.

OBJECTIVES

- To study the growth of manufacturing units in Kerala.
- To measure the productivity of manufacturing units in Kerala.
- To analyze the ratios of industrial production in Kerala.

METHODOLOGY

This paper is an attempt to understand the movement of the performance of manufacturing sector in Kerala. Hence the population of the study is the whole manufacturing units in Kerala which includes units from various industries such as textile, chemical, metal, food, paper, etc. Secondary data which is collected from Kerala Economic Review, Report of Annual Survey of Industries of Kerala and India published by Economics and Statistics Department Kerala and Ministry of Statistics and Programme Implementation (MOSPI), Government of India are used for the study. The study aims to accomplish its objectives by making analysis of growth, productivity and ratios of industrial production for last five years in Kerala.

Growth of Manufacturing Sector in Kerala

To measure the growth of manufacturing units in Kerala five variables bearing the growth characteristics are considered;

1. Number of factories:

As per the Factory Act 1948 factory is one, which is registered underSections 2m(i) and 2m(ii) of the Factories Act, 1948.

2. Invested capital:

Invested capital is the total of fixed capital and physical working capital.

3. Net Value Added:

This is the increment to the value of goods and services that is contributed by the factory and is obtained by deducting the value of total inputs anddepreciation from gross value of output.

4. Profit

It is obtained by deducting compensation of employees from net income.

5. Gross capital formation

Gross capital formation is measured by the total value of the gross fixed capital formation plus changes in inventories and acquisitions less disposals of valuables.

Table 2: Growth of manufacturing units in Kerala (Real data)

Year	Variables				
	No. of factories	**Invested Capital**	**Net Value Added**	**Profit**	**Gross Capital Formation**
2010-11	6917	2695344	873426	313824	432473
2011-12	7031	2864461	926623	293933	396740
2012-13	7129	3361211	1171460	457551	379559
2013-14	7132	3864741	1345969	575134	823877
2014-15	7320	4365469	1197535	292171	582183

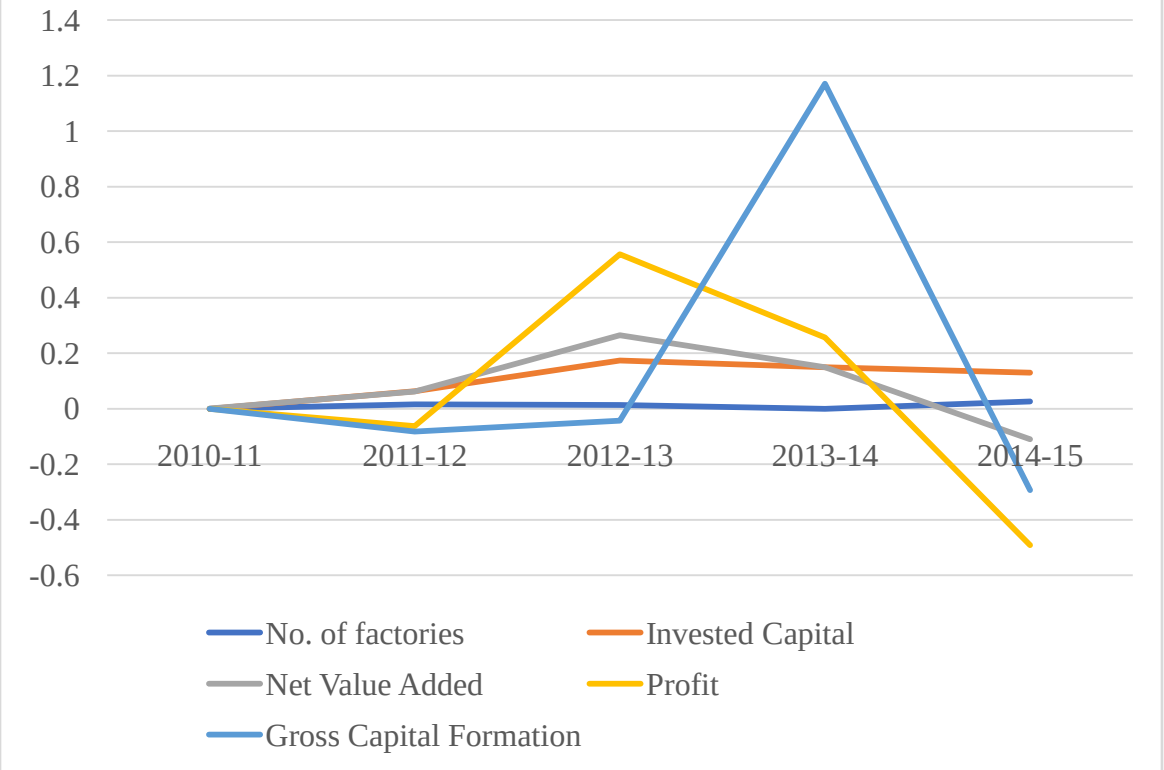
Source: Annual Survey of Industries published by both the Governments of Kerala and India, Various years

Based on the above table the growth percentage of each variable for last five years are calculated and analyzed.

Table 3: Percentage growth of manufacturing units in Kerala

Year	Variables				
	No. of factories	Invested Capital	Net Value Added	Profit	Gross Capital Formation
2010-11	0	0	0	0	0
2011-12	0.02	0.06	0.06	-0.06	-0.08
2012-13	0.01	0.17	0.26	0.56	-0.04
2013-14	0.00	0.15	0.15	0.26	1.17
2014-15	0.03	0.13	-0.11	-0.49	-0.29

Chart 2: Percentage growth of manufacturing units in Kerala



The above table and chart provides a clear growth trend of manufacturing sector in Kerala. There is a slow growth in number of factories and invested capital, but the line is going downward for important variables such as net value added, gross capital formation and profit. Kerala manufacturing sector shows a higher growth during 2011 to 2014.

Productivity of manufacturing units in Kerala

Productivity as a measure of efficiency and effectiveness and as a means of improving the quality of life is a generic from achieving the highest output from the limited resources. Productivity simply the ratio of output to input. Input output analysis is a form of economic analysis. Two types of productivity are calculated and analyzed here;

1. Material productivity

This is the ratio of material output to input. Material productivity is a sign of efficiency in production. It can be raised only when production is carried out in a more economical manner. The below table provides the material productivity of total manufacturing units in Kerala.

Table 4: Material Productivity of manufacturing units in Kerala

Year	Input(in lakhs)	Output(in lakhs)	Productivity (Output/Input)
2010-11	7201039	8205049	1.14
2011-12	10078978	11158670	1.11
2012-13	10843126	12179092	1.12
2013-14	11579148	13105441	1.13
2014-15	11444856	12866371	1.12

Material productivity is high in the year 2010-11 and there is high slope down in next year and increased at a diminishing rate in following two years. Kerala manufacturing units are efficient in production (material productivity more than 1) but them increasing at a diminishing rate.

2. Labour productivity

This is the ratio of output to labour input. To workers productivity means speed up in their work pattern. It is the amount of output that is obtained from each employee. Here labour productivity is calculated as; productivity per employee per year and productivity per day of manufacturing units in Kerala as a whole.

Table 5: Labour productivity of manufacturing units in Kerala.

Year	No. of employees	Output (in 000's)	Productivity per employee per year (Output/No. of employees) (in 000's)	Mandays employed (in 000's)	Productivity per day (Output/Mandays employed)(in 000's)
2010-11	381340	82050490	215	105631	777
2011-12	393425	111586700	284	108066	1033
2012-13	380498	121790920	320	105610	1153
2013-14	351662	131054410	373	101794	1287
2014-15	384058	128663710	335	103131	1248

While analyzing labour productivity labour productivity per day shows a steady increase over years but productivity per employee per year is declining. Units must focus on employees' productivity to increase overall productivity of organization.

Ratios of industrial production in Kerala

In order to understand the manufacturing sector in Kerala and its growth some key ratios of industrial production are calculated and analyzed.

1. Cost to create one job= Fixed Capital/No. of employees
2. Share of wages in the value added = Wages and emoluments/Net Value Added
3. Average wage= Wages and emoluments/No. of employees
4. Productivity of each employee= Net Value Added/No. of employees
5. Incremental capital output ratio=

Fixed Capital of current year- Fixed Capital of previous year/Net Value Added

Year	**Ratios of Industrial production**				
	Cost to create one job (FC/EMP)	Share of wages in value added (Wage/NVA)	Average wage (Wage/EMP)	Productivity of each employee (NVA/EMP)	Incremental capital output ratio ((FC1-FC0)/NVA)
2010-11	4.00	0.52	1.18	2.29	0
2011-12	3.93	0.55	1.28	2.36	0.02
2012-13	4.92	0.50	1.54	3.08	0.35
2013-14	6.66	0.47	1.81	3.83	0.40
2014-15	7.64	0.61	1.91	3.12	0.44

Values in lakhs.

The above table depicts the results of each ratios of industrial production. All ratios are increasing at a high rate. Among this cost to create one job, share of wages in value added average wage are increasing which is a bad sign to the manufacturing sector in Kerala, but the other two ratios; productivity of each employee and incremental capital output ratio are increasing at a high rate is good to boost the growth of manufacturing sector.

CONCLUSION

The analysis of growth, productivity and ratios of industrial production of manufacturing sector in Kerala are shows that it grow at a diminishing rate and need to take more steps from the part of government and manufacturing units to boost its growth. Number of factories and invested capital are growing slowly but no growth can be seen in important areas such as net value added, gross capital formation and profit. Material and labour productivity are also going down. While analyzing the ratios of industrial production costs related to employees are increasing which highly affect the performance of unit. In overall the manufacturing sector in Kerala is showing a worst performance during last five years.

Despite poor industrial growth, Kerala ranks second among states in terms of manufacturing excellence, a recent study conducted by the Associated Chambers of Commerce of India (Assocham) has revealed. The study found that Kerala was second only to Karnataka in manufacturing excellence over a five year period from 2009. So manufacturing sector in Kerala have more opportunities like Kerala has second highest ratio in terms of road density, third highest ratio in terms of efficiency and fourth highest capacity utilization ratio.

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APPENDICES

1. Figures used to calculate ratios of industrial production

Year	Fixed Capital	No. of Employees	Wage	Net Value Added
2010-11	1526329	381340	451641	873426
2011-12	1546086	393425	505138	926623
2012-13	1870369	380498	585851	1171460
2013-14	2342965	351662	637320	1345969
2014-15	2934983	384058	733377	1197535