CHAPTER 1
INTRODUCTION

Industrialization is the *sine qua non* of economic growth and social development. India has emerged as one of the world’s top ten countries in industrial production according to UNIDO’s Yearbook of Industrial Statistics 2010. Despite the global financial crisis, India maintained its industrial growth and overtook its major competitors in the developing world. In the modern industrial economies, the tertiary sector has emerged as the main job provider and income generator. Micro and Small Enterprises touch the lives of the weaker and unorganized sections of the society with more than half of those employed being women, minorities, and the marginalized. Fifty seven percentage of the Micro and Small Enterprises are owner-run enterprises with one person. Industries help to promote regional development, eradicate poverty as well as uplift the standard of living of the people. India’s vast domestic market, skilled and technical manpower, low production as well as Research & Development cost has made the country a manufacturing hub.

Small scale industry is widely recognized as a powerful instrument for socio economic growth and balanced sectorial development. Similarly, cottage and small industries occupy an important place in Indian economy. These industries are contributing half of the total industrial production in India and provide gainful economic activity to more than five times the number of people employed in the large and medium sized industries in the country.¹ The Government of India recognize the significance of development of Micro, Small and Medium Enterprises sector and hence a separate ministry for Micro, Small and Medium Enterprises was created in the year 2004.

Worldwide, MSMEs have been recognized as engines of economic growth. This sector is an important component of our national economy. It
provides employment to nearly 60 million people and contributes over 45 percentage of the total manufactured output, 95 percentage of industrial units and 40 percentage of our export earnings.\textsuperscript{2} Unemployment, both rural and urban has assumed alarming proportion, in spite of efforts for creating job opportunities under the Plan periods. Studies made by R. Venkataraman says that employment generating capacity of the small scale industries is about eight times higher than that of the large scale industry while the output capital ratio works out to be four times higher in the small industries compared to large industries. It has been estimated that 1,00,000 rupees of investment in fixed assets in the small-scale sector generates employment for four persons.\textsuperscript{3} In India small and medium enterprises constitute 95 percentage of the total industrial units, manufacturing over 6000 products ranging from handloom sarees, carpets and soaps to pickles, papads and machine parts for large industries. They employ 80 percentage of the total labour force contributing around 40 percentage of the total manufactured output.\textsuperscript{4}

Agriculture, being a seasonal occupation, can’t provide full time employment to the rising population of India throughout the year. Excessive pressure of population on agriculture has given rise to the problem of under employment and disguised unemployment. It is believed that micro and small enterprises can check the large scale migration of population to the urban areas which is already overcrowded and congested. Moreover, the export potential of small scale sector promises to improve the balance of payment position of the country. Planned industrial decentralization, if done, will result in balanced regional development of the country.

Although industrial development holds the key to the economic progress, Kerala has been quite slow considering the potentialities as well as requirements of the state. The prevalence of unemployment in the state calls for rapid development of the industrial sector. A wide range of small-scale units were developed in Kerala, as a result of State sponsorship through
financial assistance and other incentives. Micro and Small Enterprises have a vital role to play in Kerala’s economy as the industrial climate, state of economy and population density is not suitable for the development of large scale units. Factors such as scarcity of capital, abundance of labour, lack of necessary infrastructure, existence of regional and social disparities in development etc give the SMEs an edge over large scale enterprises in the state. Industrialisation helps to create a positive change in the society by giving employment to the young and educated people especially in the rural areas as most of the engineering units are located in such places. The General Engineering sector has been playing a significant role in the country’s economy. The MSME sector is reckoned as the backbone of the Indian economy as it contributes significantly to the GDP growth of the country. The current contribution of MSME sector to GDP is 8 percentage. The sector’s total share in GDP has moved up gradually from the initial 3-4 percentage to 6 percentage to 8-9 percentage and it will soon achieve double-digit growth by touching 10 percentage.5

Light engineering industry is one of the largest segments of the overall industrial sector of a nation. It is an intermediate unit whose demand depends on a variety of end-user industries such as power, mining, oil and gas, consumer goods, automotive and the general manufacturing sector. In other words, the products covered under this industry are largely used as inputs to the capital goods and heavy engineering industries. Being labour intensive, the light engineering sector generates a lot of employment opportunities in the economy, especially in the areas where there is an abundant supply of skilled and semi-skilled labour.

India has a strong engineering and capital goods base and is a major exporter of light engineering goods which include a wide range of items, such as forgings, fasteners, bearings, steel pipes and tubes, diagnostic medical
The presence of well-developed and sound light engineering sector is of high importance to the Indian economy and is the basis of almost all productive and business activities in the country. The size of Indian light engineering industry is estimated at around US $ 7 billion.6

The light engineering industry is vital for manufacturing various final products and improving the quality of life of the people. It holds immense potential for accelerating the pace of development of country and thus offers innumerable opportunities for the investors the world over.

**Importance of Light Engineering Industry**

Light engineering is an important sub-sector of the manufacturing sector. It provides critical support to industrial, agricultural and other sectors of the economy by manufacturing a wide range of spare parts, casting, molds and dies, oil & gas pipeline fittings, light machinery, etc and by providing repair services. With regard to the spare parts, the light engineering industry is known to manufacture spare parts for cement factories, paper mills, jute mills, textile mills, sugar mills, food processing industries, plastic industries, printing industry, fertilizer factories, railway, shipping, marine transport, automobiles, construction related machinery, and pharmaceutical industry, just to name a few. Undoubtedly, light engineering industry supports the very basic requirements of industrialization and plays a key role in keeping other industries running.

Light engineering industry in Kerala produce large number of products and services out of which few important products of are:

Structural fabrication like gate, grills, rolling shutters, collapsible gates and railings, steel and sheet metal products like pix axe, mammatty, showel, agricultural implements, steel trusses, tool for coconut dehusking, different types of knives, bolts, washers, nails, screws, rivets, steel towers for mobile
phones, co-axial power transmission towers, Steel casting products including chairs, tables, racks, shelves, tube light patty, steel brackets, machinery parts, steel cement chatties, wood working machinery, plastic molding machinery, pulverizing, grinding, pounding machineries for ayurveda and bakery industries, handmade soap making equipments like mixing and boiling tank, cutting machine, die etc. Aluminum fabrications like tower bolts, ladders, stool, chair, aluminum vessels, copper vessels like uruli, thava, vilakku, sword etc made of brass, auto rickshaw body, lorry body, bus body, bus seat, leaf springs for vehicles, auto spares like rivets, bushes, gaskets, hand tools, textile shuttles, hospital cots, thermal cooker, solar water heaters, boilers, tiller wheels, tanks for liquid storage, home exercise equipments etc.

Important services are: Repair shops for automobiles- two wheelers, three and four wheelers, heavy vehicles, generators, power looms, air conditioners and refrigerators, electrical equipments, various machineries and utensils etc.

The changing demographic profile of the Indian consumer, viz. increasing income levels and greater propensity to spend, lifestyle changes like nuclear families and working women, exposure to global trends etc are generating opportunities for growth of light engineering industries. These changes have been driving consumption in end-user sectors such as consumer durables, building accessories like housing grills, gates, shutters, locks, household utensils and kitchenware. Keralites are health conscious and there is great demand for home exercise equipments as well. Construction industry is a supply constrained industry and will have sustained growth of over 20 percentage per annum for the next 20 years as per capita income is increasing and more than 400 million Indians shall go for own dwelling, office etc. Thus increase in construction activity will show sustained growth of light engineering industry. In Kerala alone, the annual demand for the structural
products are 1.25 lakhs tones and Kannur district’s annual demand for the finished goods is up to 0.4 lakh tones per annum.\(^7\)

The engineering sector contributes about one-fourth of the country's overall merchandise exports and the share is expected to grow further. Engineering exports include transport equipment, capital goods, industrial machinery, electric machinery and equipment, auto and auto components and ships, boats and floating structures and light engineering products like castings, forgings and fasteners. The Indian engineering industry is worth around `1,165.0 billion. Out of this, 80 percentage of the consumption by value falls under heavy engineering, while light engineering contributes to the remaining 20 percentage. It contributes to 20 percentage of the net engineering production and employs over 4 million skilled and semi-skilled workers. During the period April - December 2003-2004, the exports of the engineering goods amounted to `32,980 crores, as against `26,356 crores during the corresponding period last year, showing an impressive growth of 25.1 percentage.\(^8\) In rupee terms, India’s export of engineering goods and services is valued at `2,18,766.9 crores during 2008-09 which is 32.1 percentage higher than `1,35,806.8 crores during 2007-08.\(^9\) In 2010-2011, engineering exports registered their highest growth of about 85 per cent to $60.1 billion. Commerce Ministry has projected that the country's engineering exports will touch $108 billion by 2013-14\(^10\)

A key driver for increased engineering exports is the trend towards shifting of global manufacturing bases to countries like India that offer lower costs and good engineering talent. This trend is expected to continue and will boost exports of engineering goods from India over the next 20 years. In such a scenario, India, driven by the engineering sector, will emerge as a key global manufacturing hub.
Out of total engineering exports, valued at $32.5 billion in 2009-10, the U.S accounts for 30 per cent and the EU accounted for about 35 per cent. There is strong demand from the US and the developing markets of Latin America and Middle East.

The spurt in engineering outsourcing can be gauged from the fact that a number of giant automotive and aerospace companies such as Ford Motor Company, General Motors, Boeing and Airbus have some of their engineering done by Indian technology companies. Engineering Process Outsourcing (EPO) market in India had the potential to exceed $40 billion by 2020, which would shoot India’s market share in the same category to 30 percentage from the current 12 percentage. Exports from the Micro Small and Medium Enterprises (MSMEs) are increasing, despite high raw material costs, difficult global markets and stiff international competition. According to a survey conducted by the Confederation of Indian Industry (CII), 42 percentage of exporters recorded a rise in volumes during the first half of 2010. The top five regions for exports by Indian MSMEs are Europe, North America, South-East Asia, the Middle-East and the Far-East. Majority of them anticipate that Europe and North America are the markets with potential for exports. A study by Associated Chambers of Commerce and Industry of India (ASSOCHAM) made in December revealed that SMEs are expected to contribute 22 percentage to India's GDP by 2012, up from about 17 percentage currently.

The demand for engineering applications among the Small and Medium Enterprises is increasing rapidly. The leading companies are providing a portfolio of the industry specific readymade templates, pre-configured and easy-to-deploy design, manufacturing and data management solutions, specifically designed for the needs of SMEs. Moreover, the companies are broadening their solution to cater to a variety of the industry segments. Such solutions help the companies to integrate, simplify and speed
up their product development. In short, many factors contribute to the growth of engineering sector in India. The key growth drivers are:

- Growth in Key end user sectors: The domestic sale of automobiles has grown at a compound annual rate of around 14 percentage over the past four years.
- Government’s emphasis on power and construction sector has widened the scope for the demand for capital goods.
- Further, India is being preferred as a destination by global manufacturing companies for outsourcing due to its lower labour cost and better designing capabilities. So engineering companies have huge potential for direct exports and outsourcing.

**Purpose and Importance of the Study**

Micro Small and Medium Enterprises have emerged as a dynamic, dominant and vibrant segment of Indian economy not only in term of its contribution to industrial output and national export but also in providing growing opportunities. For a country faced with growing unemployment, the contribution of MSMEs is significant not only in the economic but in the social perspective too.

The development of cottage and small scale industries can provide solutions to several problems of Indian economy. Our economy is reeling under pressure due to varieties of reasons like lower agriculture output, massive unemployment etc. The development in MSME sector certainly can contribute much for boosting our economy.

The ownership of small and cottage industries is spread over millions of people compared to the large scale industries which are owned by only a few big industrial houses. In the case of large scale industries, the income and wealth is concentrated in the hands of a few, while small scale industries help for its wide dispersal, which means equitable distribution of income and
wealth. Establishment of small scale sector would make use of the latent resources which are lying idle. The industries in rural and urban areas can harness those resources well. Small enterprises can contribute towards rural prosperity and the economic well being of the village people. SMEs account for 32 percentage of the workforce and 29 percentage of the value added in nonagricultural, private unincorporated enterprises.\textsuperscript{13} Infusion of appropriate technology, design skills, modern marketing capacity building and easier access to credit can make this segment an expanding base for self-sustaining employment and wealth generation and also foster a culture of creative and competitive industry. Agro-food processing, sericulture and other village enterprises can check rural-urban migration by gainfully employing people in villages. This will also take pressure off agriculture.

Another important factor to be considered is the symbiotic relationship between MSMEs and large scale units. Our exports from engineering sector have been increasing steadily for the past several years, especially after globalization. Major position of the engineering exports is from capital goods sector which are large engineering units. To boost the smooth functioning of these large units, several MSMEs will have its own contribution by way of supplying key parts, sub assemblies, spares etc. to such large units. MSMEs benefit by way of getting continuous orders from large units and large units get steady supply from MSMEs situated in its periphery. In this context of the growing significance of general engineering industry, a study on Micro and Small Enterprises in light engineering industry in North Malabar appears to be significant and hence the study is undertaken.

North Malabar has been selected as the study area because:

- Kozhikode is considered as the commercial capital of North Malabar and one of the two earliest Corporations of Kerala, the other being Trivandrum.
Kannur, Kasargod Kozhikode and Waynad districts accommodate large number of tile, brick, timber and textile industries.

To cater to the needs of the above referred traditional industries, General Engineering industry assumes importance as suppliers of equipments and service providers.

Moreover, Kannur district is going to be a major business hub of the country especially, textiles on the following grounds.

Textile related Central and State organizations like Textile committee, Weaver’s Service Centre, Power loom Service Centre, National Handloom Development Corporation, HEPC Design studio, Apparel Park(TCID), NIFT, IHTT, proposed container freight station, Azhikkal sea port and air port – all are in Kannur district. These institutions will definitely fuel the growth of engineering industries, especially in textile related industries.

**Population and Sample size**

In Kerala, light engineering industry plays an important role in the development of its modern small-scale sector. Micro and small engineering units constitute a major share of the industrial units registered in District Industries Centers in each district. The registered light engineering units in micro/small-scale sector in Kerala approximately numbers to 18,114 in 2007. Of this, around 3,310 are in the four districts of North Malabar.

This research is an exploratory study of light engineering industries of North Malabar region of Kerala comprising of Kasargod, Kannur, Kozhikode and Waynad districts. The total number of light engineering units in the North Malabar area constitutes the population. Multistage random sampling based on type of products and services are followed to identify the sample units from the four districts of Kerala, giving due importance for rural and urban.
units. Considering the working status, final selection of the units is done. Out of the 3,311 registered units in the study area, the survival rate is only 75 to 80 percentage. Considering 75 percentage as the survival rate, 370 units are identified for the study on a multi-stage random sampling basis.

**Scope of the Study**

Though small scale sector had been showing growth in important aspects namely, numbers of units, volume of production, number of employment and export value, the growth rates are smaller in the post reform period compared to that of pre reform period. Of the different micro and small scale enterprises functioning throughout Kerala, engineering units occupy major position. In all the fourteen districts of the state, engineering industries occupy a prominent status. Though infrastructure facilities like developed land and buildings, transport and communication, utilities like power and water, distribution and other facilities etc are more or less available throughout the state, industries in the light engineering sector, especially spares and sub assemblies needed for the automobiles, machinery and construction sectors have not prospered in Kerala. Likewise, lots of building materials and utensils for the household are coming from the neighbouring states and other industrially developed stated like Maharashtra, Gujarat, Punjab, Haryana etc. There must be some bottlenecks for such industries not concentrated in Kerala and it is learnt that no serious study has been conducted from this angle. The researcher, therefore, believe that there is scope for conducting a detailed study in this area.

A preliminary survey conducted by the researcher has revealed that lots of hardware items like locks, nuts, bolts, hinges, hooks, washers, nails,
screws, rivets, thermal cooker, solar water heaters, boilers, spare parts etc. that can be easily manufactured in Kerala are not being made in the state in an organized way. In other words, contribution of light engineering industries to the development of Kerala economy is very negligible, though the state is one of the fast growing consumers of such items. The researcher has discussed this issue with various stakeholders and they are of the opinion that this is an issue to be studied in depth. Hence this topic has been taken up for a detailed analytical study.

Light engineering industries contribute wide variety of products and services. But in Kerala production of them has not emerged as a strong sector as in other states like Tamil Nadu, Karnataka, Gujarat, Maharashtra etc. The scope is large, but the potential hasn’t been tapped properly. Entrepreneurs who are ready to invest must have viable project ideas to set up industries. No serious efforts are seen taken up by the authorities to prepare and update project ideas that can serve as guidelines to the new generation entrepreneurs. The study aims at plugging this gap also.

**Objectives of the study**

The study aims to analyse the role of light engineering units in employment generation and the extent of industrialization of the state. The major objectives of the study are:

1. To examine the growth pattern of light engineering units in the four districts (Kozhikode, Waynad, Kannur, and Kasargod) of Kerala state in the context of the operation of the industrial estates.

2. To analyse the economics of light engineering units operating in North Malabar in terms of cost, price and profit per product/service.
3. To explore the product mix, design and demand profile of light engineering industries in North Malabar.

4. To enquire into and ascertain whether there is any production linkage between light engineering units in North Malabar and the group of engineering or other industries within or outside the state of Kerala.

5. To examine the financial support availed by units and to assess the sector-wise repayment position as on date, and

6. To make suggestions for further growth of light engineering units in North Malabar.

Hypotheses

1. The growth pattern in light engineering units in North Malabar has strong linkage to the industrial estates promoted by District Industries Centers.

2. The economics of light engineering industry is primarily determined by the availability and cost structure of basic raw materials and skilled labour.

3. There is direct linkage between mix and design of products of light engineering units in North Malabar with its demand profile.

4. There is backward and forward integration to light engineering units in North Malabar.

5. Micro small and medium enterprises dependence on external source of finance is the key factor in the survival of units.
Methodology

This is an explorative research based on both primary and secondary data. Primary data are required for verifying the objectives set for the study while secondary data are relevant for the overall analysis of the industry. Primary data is collected through a sample survey by means of pre tested interview schedule while secondary data are collected from the records of District Industries Centres and different Government publications.

Data analysis involves converting a series of recorded observations into descriptive statement and /or inferences about relationships. For the statistical analysis of data, major tools used include: Chi-Square test, Pie-Charts, Averages, %s graphs, Bar diagrams, tests of significance and software packages SPSS and M S Excel.

Variables

The growth indicating variables are:The change in number of units, change in the volume of output, change in the value of output, change in the number of persons employed and change in profitability which are collected from the secondary source. Cost, revenue, profit, product details collected from the sample units through interview schedule are the other variables for the study.

Operational definitions

Micro enterprises mean enterprises where investment in Plant and Machinery doesn’t exceed 25 lakh rupees. Small enterprises refers to enterprises where investment in Plant and Machinery is more than 25 lakhs but doesn’t exceed 5 crore rupees.

Light engineering

For the purpose of the study light engineering is defined as “micro and small units such as machine shops, fabricating shop, assembly shop, forging and casting shop and such other manufacturing units using metals and also include engineering work shops undertaking repairing and servicing of automobiles, pump sets, generator, machineries, tools and equipments”.
**Period of the study**

The study is undertaken by collecting data for a period of 10 years from 2000 to 2009.

**Chapterisation**

The study is presented in six chapters. The first chapter, being the introduction, gives the purpose and importance of the study, objectives of the study, population, sample, methodology, and scope of the study.

The second chapter reviews the literature relating to small scale engineering industries in general. The third chapter gives an overview of Indian industries including the profile of Micro and Small Enterprises in Kerala.

Chapter four is devoted to a detailed discussion of engineering industries and in the fifth chapter analysis of the data from light engineering industries in North Malabar Region is given in detail.

The sixth chapter explains the findings of the study and recommends policy suggestions for the future improvement of the light engineering industry in the area.
End Note

7. “CFC proposal for Engineering cluster, DIC, Kannur, Kerala” V 0.7, pp 3-4
10. Economic Times 11th July.2011
11. The Hindu 4th March.2011
15. Compiled from the data collected for the 4th Census by the District Industries Centres -2009