



Contributions of Indian Pump Industry for the development of Indian Economy

**Dr. P. Rajan¹, Dean, Management Science, Sri Krishna Arts and Science College, Coimbatore.
Mr.G.Sathish Kumar², Sri Krishna Arts and Science College, Coimbatore.
Mr.SP.Radhakrishnan³, Sri Krishna Arts and Science College, Coimbatore.**

Abstract

Pumps are the basic equipment for the development of an economy. Economy of the country and its GDP comprises contributions from Agriculture, Industry and services. Status of the industry depends on the economic conditions of these sectors. Indian pump industry has contributed immensely to the economic growth of the country. India has over 800 pump manufacturers. India manufactures more than 4.5 million pumps every year. Among machineries Indian pumps are produced and used in largest numbers after electric motors. The Indian Pump industry offers excellent growth opportunities for international collaborations.

Key words: Manufacturer, Agriculture, Electric pump, Mining, Globalization

1.1 Introduction

In India the manufacture of pumps has a history of nearly a hundred years. Pumps are the basic equipment for the development of an economy. Economy of the country and its GDP comprises contributions from Agriculture, Industry and services. Pumps are important in all these. Status of the industry depends on the economic conditions of these sectors. Indian pump industry has contributed immensely to the economic growth of the country.



The Indian Pump industry is growing at an annual CAGR of 10 per cent which is higher than the international CAGR average of 6 per cent due to the surge in infrastructure development, growth in agriculture and other water intensive industries. The Indian Pump industry offers the highest net value additions in the engineering industry of over 20 per cent. Moreover, the Indian pumps in the domestic market are growing at a rate of 16-18 per cent per annum.

1.2 Review of Literature

Ramathilagam studied the economic aspect of small engineering units in Coimbatore city with the objective of assessing their contribution to the promotion of other industries and economic development of the region. As per the records of CODISSIA there were 1200 small engineering units, out of which 120 units comprises of product groups namely Electrical Motors, Textile spares were taken for the study. The study focused extensively on the economic characteristics of small engineering firms in Coimbatore.

Knapp (1941) published the complete pump characteristics for a few pump designs based on experimental investigations. In the 1950s and 1960s, the concept of pumped storage power plants, in the range of 50 to 100 MW, was evolved mainly in developed countries to manage the peak power requirements.

Michel Cartiller attempted to investigate the role of small-scale industries in economic development with reference to irrigation pump set industry in Coimbatore. He had analyzed the growth of small-scale pumps industry in Coimbatore. It presents importance and economic structure with reference to number of units, electrical service connections, employment, capital and output.

1.3 Objectives of the study

1. To analyse the role of pump industry in various sectors for the development of the country.
2. To examine International recognition for Indian pumps.
3. To find out Government initiatives to promote the Indian pump industry



1.4 Implications of the study

Implications of research will review the conclusions drawn based on the findings of the research. This would help the markets, society and concerned organizations to create decisions about future implications. In this research the implication with respect to government, pump manufactures, markets and dealers are well addressed based on the findings and suggestions.

1.5 Collection of data

The present study is mainly based on secondary data on pump industry. In order to carry out the aforesaid objectives, the secondary data were collected relating to pump industry. The secondary data were collected from published sources like the published annual reports of companies which have been collected from the official website of the pump companies, various publications of Pump Company's association, various journals, and websites.

2.1 Market size of Indian pump industry

The Indian pump market was worth over US\$ 1.2 billion in 2014 (that is over INR 8,000crore). India has over 800pump manufacturers. India manufactures more than 4.5millionpumps every year. Among machineries Indian pumps are produced and used in largest numbers after electric motors. The Indian Pump industry offers excellent growth opportunities for international collaborations. Indian Pumps are exported to more than 100 countries.

2.2 Role of Indian Pump Industry in the Sector of Agriculture

When India achieved independence, electricity was available only sparsely. Agricultural pumps in those times were prominently engine-driven. Even today, engine-driven pumps come handy to farmers, in situations of vagaries of power-supply and in remote places, where electricity has not yet reached.

With spread of electricity, electric pump sets, especially of monoset variety (IS-9079) became popular. Propelled by commissioning of major irrigation projects, growth in agriculture soon made



the country self-sufficient in food. Out of total production of pumps in India, agriculture is occupying 27 per cent (2295 crores).

2.3 Role of Indian Pump Industry in the Industrial and Utilities / Services Sectors

All industrial sectors there have been foreign technologies from different countries around the world, primarily from Europe and USA. Yet most of the pumps in these plants are Indian pumps by virtue of initial procurement itself from within India or by replacement or by import substitution. The urge of plant engineers for Indian pumps is understandable, because the prompt aftersales service is critical for the industrial sector. There is better guarantee of this with Indian pumps and Indian pumps have acquitted themselves well towards such faith of the users. Nuclear power sector has always laid full faith in indigenous development.

2.4 Mining and metal ore refining sector

The coal mining is the most prominent amongst the mining activities, although there are activities of metal ore mining, mining of diamond and mica. The mining activity itself, whether opencast or underground is growing in size and technology. Accordingly, pumps of large capacities, of submersible and other types and for slurry transport of the mined outputs are coming into vogue. For aluminium production, single and double casing pumps in high hardness abrasion resistant materials have been developed.

2.5 Paper sector

The significant aspect of paper making is the extent of fluidizing the paper stock. Higher the percentage consistency, as much more economical is the process of paper making, because all the fluidizing liquid has to be subsequently squeezed out during the calendaring. The solids-handling capacity of paper stock pumps has over the years improved from 4 to 5 percent to some 8 to 9 percent consistency.



3.1 International recognition for Indian pumps

Indian Pumps are globally accepted for their quality. Lowest Life Cycle cost (LLC) Pumps, which are highly demanded globally on account of sustained energy efficiency and lower maintenance costs. Multi-Stage Multi-Outlet (MSMO) Pumps are ideally suited for high rise urban development projects because they require less space. Concrete Volute (CV) Pumps are extremely reliable and cost effective. Some of the other important products manufactured in India include solar centrifugal pumps and solar power conditioning units which have helped save millions of units of electricity annually.

Energy Efficient Systems and Intelligent Process Equipment Systems are being integrated to meet international demands and retain cost effectiveness for domestic industrial and infrastructural goals. Kirloskar Brothers Ltd., a globally renowned Indian pump brand, recently created a record in its all women Coimbatore plant by successfully reducing its assembling time from 60 seconds to a record breaking 20 seconds.

3.2 The Global Pump Industry

There are many challenges facing the global pump industry, starting with defining its size. Estimates and reliabilities vary from region to region. Adding to that is the disparity between exactly which types of pumps are included in these regional estimates. Nonetheless, most credible sources put the industry at \$40-50 billion per year, with low growth rates forecast over the next year that will vary by region. Regardless of its size there is a common issue facing the industry is competition from globalization.

Increased globalization is a two edged sword. While it makes foreign markets more accessible to domestic suppliers, it also opens domestic markets to foreign based competition. Along with this, the internet has also helped make global sourcing easier than ever. U.S. pump suppliers have adapted well to this, and have actually increased their shares of the global market over the last decade.



4.1 Government initiatives to promote the Indian pump industry

The Government of India envisages the installation of 1,00,000 solar water pumps for irrigation and drinking water purposes across the country.

India's industrial policy effectively supports the small scale sector which is the backbone of the Indian engineering sector and contributes significantly to India's engineering exports through Government funded Research and Development collaboration through SiTarc, Coimbatore, SIEMA, CSIR and Ministry of Science & Technology.

PCPIR (Petroleum, Chemicals and Petrochemicals Investment Region), an initiative taken by Government of India, is designed to encourage foreign investment in petroleum, chemical and petrochemicals sector. This is expected to accelerate economic growth and positively impact the demand for water pumps in India.

5.1 Summary of Findings

5.1.1 Status of the pump industry depends very much upon the economic conditions of these sectors.

5.1.2 The Indian Pump industry is growing at an annual CAGR of 10 per cent which is higher than the international CAGR average of 6 per cent.

5.1.3 Indian Pumps are exported to more than 100 countries. Out of total production of pumps in India, agriculture is occupying 27 per cent (2295 crores).

5.1.4 For aluminium production, single and double casing pumps in high hardness abrasion resistant materials have been developed.



5.1.5 The solids handling capacity of paper stock pumps has over the years improved from 4 to 5 percent to 8 to 9 percent consistency.

5.1.6 The Government of India envisages the installation of 1,00,000 solar water pumps for irrigation and drinking water purposes across the country.

5.2 Suggestions

5.2.1 Market potential and growth in demand for pumps depends on the growth in sectors using pumps. Market demand in different sectors is influenced by various related factors. In India demand for pumps for agriculture is substantially influenced by vagaries of monsoon. Projects like equitable distribution of water from regions of abundance of water to regions deficient in water or projects for interlinking of rivers would cause a big boost in demand for pumps for such infrastructural activity.

6.1 Conclusion

Today, in the era of competitive and dynamic market, it has become very difficult to survive for a small scale industry. The Government Officials, policy makers in India and MSME, DIC, COINDIA, SIEMA, IPMA, CODISSIA to understand the various Challenges and problems of Pump manufacturers and their Export potential at Global level and need for technology up gradation.

References:

“Global Pumps Market Overcoming Challenges with Advent of Technology”, available at <https://www.waterworld.com/articles/2015/07/pumps-manufacturers-overcome-global-conditions-by-adapting-to-technology.html>, assessed in Nov 2018

“Current Issues Facing the Global Pump Industry”, available at <http://www.conceptsnrec.com/blog/current-issues-facing-the-global-pump-industry>, assessed in Nov 2018

“The dynamics of the Indian pump industry”, available at <https://engrreview.com/the-dynamics-of-the-indian-pump-industry/>, assessed on Dec 2018



“IPMA Profile, available at http://www.indianpumps.org.in/ipma_profile.html, assessed on Dec 2018

“Pump Industry in India – An Overview”, available at <https://www.indianpumpsandvalves.com/pumps>, assessed on Dec 2018

Dixit, A. and Pandey, A.K. (2011), „SMEs and Economic Growth in India: Co Integration Analysis“, The IUP Journal of Financial Economics, Vol. IX, No. 2, PP. 41-59

Mali, D.D. (1998), „Development of Micro, Small and Medium Enterprises of India: Current Scenario and Challenges“, SEDME (Small Enterprises Development, Management and Extension) Journal, volume 25, No. 4.

Ramathilagam, M.Phil Dissertation, University of Madras: 1979.

R. Rajasekaran¹ and M. Esther Krupa, Global Marketing- A Study with Reference To MotorPumps in Coimbatore City, India Global Journal of Management and Business Studies, Volume 3, Number 6 (2013), pp. 565-572.