Light Engineering Industry in Bangladesh: A Case Study

Nazneen Ahmed
Zaid Bakht

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Bangladesh Institute of Development Studies
E-17 Agargaon, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh

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Introduction

Light Engineering (LE) is an important industry in Bangladesh in terms of its contribution to growth and poverty reduction. LE enterprises have potentials to make significant contribution towards technological advancement and economic development along with wide opportunities for employment generation. The sector has been fueling the growth of many other industries by supplying various types of machineries and spare parts and by providing repairing services.

LE enterprises are scattered throughout Bangladesh, which implies employment generation in a wider span of areas. There are roughly forty thousand industrial units of this kind, while most of them are small. Manufacturing sector now contribute 18 percent of GDP. Most of these industries are still largely dependent on imported for machineries and spare parts. It is believed that Bangladesh can benefit a lot if the LE products currently imported by the major industries are manufactured within the country. The growth of LE enterprises requires an enabling policy environment and infrastructural support.

This study will present a picture of the status of LE sector of Bangladesh, mainly concentrating on performance of various LE enterprises in terms their sizes. The case study is based on both primary and secondary information. To collect primary data, a survey was conducted on 15 LE enterprises of Dhaka including a focused group discussion with owners of LE enterprises at the Light Engineering Association of Bangladesh. Information from primary survey is complemented by a recent studies on this sector.[1]

Some features of LE sector of Bangladesh

[1] SMEF (2008): 'Sector Study Report on Light Engineering and Metal Working', SME Foundation Bangladesh. (2008)

i) Products and their importance in the economy

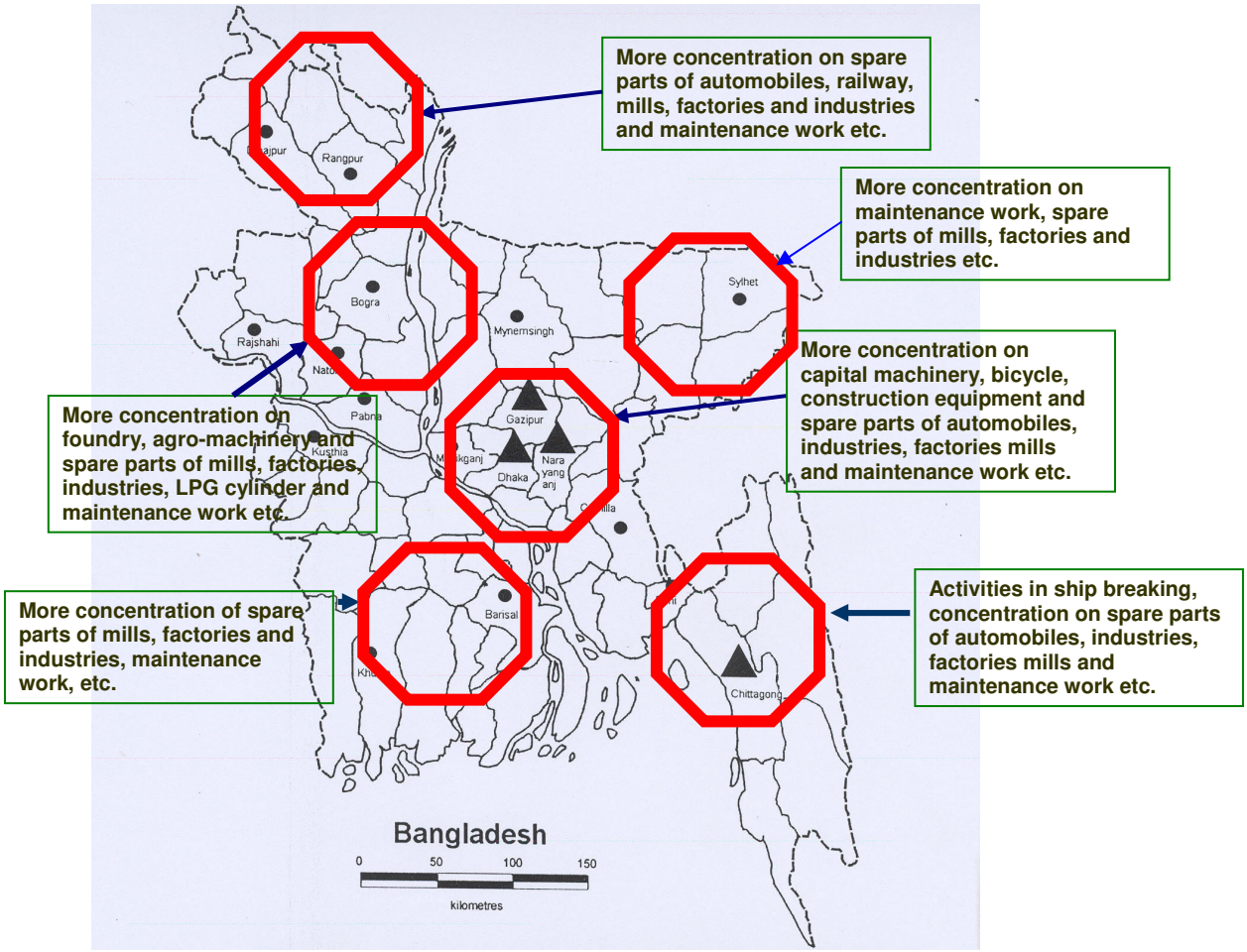
After Bangladesh became independent in 1971, the labor force, working in the firms of non-Bengalis, initiated a number of light engineering enterprises. Currently about 40,000 firms are generating employment for 0.6 million people. There are about 1200 light engineering industries presently enlisted with Bangladesh Small & Cottage Industries Corporation (BSCIC).

In Bangladesh LE sector consists of different types of engineering enterprises, a great majority of which are small in size. Products produced by this sector include metal products and electrical, electronic and electromechanical products. Part of the manufacturing process or machine parts of LE sector may be made of ceramics, rubber or plastic. Thus LE sector supports industrial, agricultural and other sectors of the economy by producing a wide range of spare parts, casting, moulds and dies, oil & gas pipeline fittings, light machinery, etc and by providing repairing services. Industries those benefit from spare parts produced by light engineering include cement factories, paper mills, jute mills, textile mills, sugar mills, food processing industry, plastic industry, printing industry, fertilizer factories, railway, shipping, marine transport, automobiles, construction machinery, and pharmaceutical industry. Because of such role in the economy, LE sector has received special attention in government policies. For example, Industrial Policy, 2009 and Industrial Policy 2005 –both have considered this sector to be a thrust sector for development. This has also been considered a priority sector in Export Policy 2006-09 and Export Policy 2009-12.

ii) Location

LE enterprises are situated different parts of the country, though there is difference in terms of products. Figure-1 presents product map of light engineering enterprises in different parts of the country.

Figure 1: Country-wide product map of light engineering



Source: SMEF (2008)

iii) Market

Except for a few, light engineering products are mainly produced for the local market. However it has potential for huge export earnings and importance of this sector in export earnings has increased overtime. It is evident from table-1 that LE products consist of about 2 percent of total export earnings of Bangladesh. LE products from Bangladesh mainly go to EU and USA. Exporters receive 10 percent cash incentive from the government on export value. Moreover, in the European market Bangladeshi LE products enjoy zero duty under GSP facility.

Table 1: Export of light engineering products (in million US$ and %)

Products	2006-07	2007-08	2008-09
Engineering Products Total	236.91 (1.95)	219.68 (1.56)	189.48 (1.22)
a) Bicycle	54.05 (0.44)	64.28 (0.46)	84.54 (0.54)
b) Iron chain	9.66 (0.08)	2.09 (0.01)	1.62 (0.01)
c) Others	173.2 (1.42)	153.31 (1.09)	103.32 (0.66)
Total Export	**12170.3**	**14108.37**	**15561.85**

Note: Numbers in the parenthesis depicts share in total export

Products those are going to foreign market include spare parts of Paper & Cement mills, Bicycle, Fancy light fitting, Construction equipment, Battery, Voltage stabilizer, Iron chain, Cast iron articles, Carbon rod, Automobile spares, Electronics items, and Stainless steel wares.

Analysis of LE enterprises of different sizes

According to the CMI2001-02, the latest available CMI, the following are some indicators of the LE sector. In CMI the light engineering products are covered by the BSIC codes 2712 to 2732, 2811 to 2819, 2890, 2899, 2928 to 2930, 2911 to 2920, 2921 to 2926. It is observed that most of the LE firms have 10 to 49 workers. However highest value added is achieved by the firms having 100-199 workers.

Table -2: LE sector according to CMI2001-02

Indicators	10-49	50-99	100-199	200-499	500+	Total
Number of Enterprises	670	129	40	17	3	858
Total Person engaged	14513	8354	5004	4276	1528	33674
Gross Value Added (in million Taka)	984	1002	1665	975	244	4870

More recent picture of this sector may be observed from the field survey conducted in the study SMEF(2008) and a small survey conducted under the current study.

Some of the findings of SMEF(2008) are presented here. It is evident that Most of the LE enterprises have 10-49 workers, dominated by male workers. However, firms belonging to 50-99 size group dominate in terms of gross value added.

Table-3: Average employment per firm

Firm sizes	No. of firm	White color worker	Production worker	Others worker	All worker
1-9	38	0.66	3.92	0	4.58
10-49	87	2.82	16.11	0.16	19.09
50-99	17	7.41	64.47	2.47	74.35
100+	8	7.75	188.13	1	196.88

Table-4: Gender distribution of workers

Firm sizes	Average no. of male worker	Average no. of female worker	Average no. of all worker
1-9	4.53	0	4.53
10-49	16.05	3.02	19.07
50-99	64.35	10	74.35
100+	153	43.88	196.88

Table 5: Average gross value added by different types of establishments

Firm size	Gross value added per unit (Tk. 000s)	
	Own-account production	Contract manufacture
1-9	2110.309	652.95
10-49	5522.58	8283.71
50-99	11133.09	25179.9
100+	108652	18647.7

According to the field visit under the current study included 15 enterprises of Dhaka, which were mainly had less than 10 workers only except 1. The firms are owned by people having education of less than 10 years. The forms have working capital ranging from 6 to 40 hundred thousand Taka. Workers in these firms work around 11 hours a day. Most of the firms (60%) produce directly for customers, while others produce for contractors. Workers of 15 to 50 years old work in LE enterprises and receive wage from 2 thousand to 15 thousand Taka. The workers learn to work on the job, there is no facility for formal training. An LE enterprise needs to be registered with the City Corporation; however many of them do not have formal licenses.

Raw materials for these firms mainly come from ship breaking firms situated in Chittagong. The quality of the raw materials is often not up to the marks. Some chemicals are imported from abroad. But the firms owners do not directly import them rather they are imported by importers.

Most of the firms start business with a capital of 2 to 3 hundred thousand Taka. Access to finance is a major constraint for the growth of this sector. Such problems include lengthy and cumbersome procedure to receive bank loans, difficulty to get required amount of loan, non-availability of sufficient working capital, difficulty to get financial help for technological innovation and development and for risky investment, non-availability of venture capital, high interest rate on bank loan etc.

Disruption in electricity supply is another major problem. It is very costly for the small firms to maintain generator for regular supply of electricity. Other problems faced by the entrepreneurs include non-availability of metal testing facility to identify the metal and its

quality, space constraint for extension of the workshop, fluctuation of price, non-availability of heat treatment facility, lack of designing capability, absence of R&D facilities, lack of knowledge on how and where to patent the product etc.

Ending Remarks

The local market of the LE Sector in Bangladesh is big and unsaturated enough; thus this sector has huge potential to grow. This is a sector which has strong forward linkage as well as backward linkage. There is sufficient demand within the various manufacturing concerns such as textile mills, railways, jute mills, shoe manufacturers, sugar mills, RMG, washing plants etc. This sector has also potential for producing import substituting goods if proper support is given. Moreover export potential of light engineering products is also rising as the cost of production, specially labour cost is low. At these backdrops the government should come forward for the development of these sector.