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Cluster Profile Light Engineering, Faisalabad



Turn Potential Into Profit

Small and Medium Enterprises Development Authority (SMEDA)
Ministry of Industries and Production (MoI&P)

Government of Pakistan



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1 Description of Cluster

1.1 Introduction

A small town assumed to play the role for agriculture procedure has now grown into a metropolitan city, which enjoys third position in the country in terms of population and industrial growth. Industrial role of Faisalabad has been more than just significant in last few decades. Only textile industry of Faisalabad constitutes more than 70% of total textile exports of Pakistan resulting in 60% of total textile exports coming from Faisalabad.

The available industrial/technical infrastructure and markets for raw materials and finished products is the industrial base of any industrial sector. One of the foremost supporting setups for a manufacturing industry is engineering. The existence of strong textile industry, agriculture and other industrial unit setups has emerged the Light Engineering Cluster of Faisalabad. Basically, this cluster is the off shoot of the textile engineering demand generated by the textile industry of Faisalabad. Textile engineering Industry, Agricultural Engineering Industry and Foundry Sector sums up the light engineering cluster of Faisalabad.

Presently, Light Engineering Cluster is comprising of around 239 manufacturing units and is providing direct employment opportunities to around 2,500 people. The cluster is currently catering to domestic market needs and supply products on national level. However, large units have been able to establish sales networks in export markets as well, but on a very small scale.

1.2 Defining the Products

There is variety of products, which can be included in the product range of light engineering products. Category wise main products manufactured in Faisalabad are as follows.

Textile Engineering Industry (Textile Machinery & Spare Parts Manufacturing)

- Power Looms
- Knitting Machines
- Winder Machines
- Warping Machines
- Sizing Machines
- Inter Locking
- Jiggers etc.
- Spare Parts of All Above Machines
- Common Industrial Machinery

Agricultural Implements

- Wheat Threshers
- Choppers
- Plowing Blades



- Sewing Machine

Foundry Products

Small and medium size units mostly work as subcontractors for the products of Agriculture Implements, Textile Machinery, Industrial Machinery and Spare Parts manufacturing.

Within limited means this segment is complimenting as well as supplementing the local industry. Although sizeable industrial units have tendency to use most modern and sophisticated imported machinery, however, smaller units depend on local machinery, parts and expertise. Larger units also benefit from the services of this sector especially for parts of machinery and repairing.

Even the locally manufactured low-tech textile machinery (e.g. auto looms, towel machinery & wheat threshers) is being exported to several countries like Bangladesh, Sri Lanka and some of the African countries. Where agricultural implements manufactures have relatively lesser challenges, the textile machinery and spare part sector is in a critical stage because of heavily technology dependency on users.

1.3 Core Cluster Actors

Textile Machinery and Industrial Machinery

As stated earlier various textile industrial machinery is being manufactured locally. This machinery can broadly be categorized into weaving/knitting, spinning, processing and common industrial machinery (boilers etc). In context to textiles, our textile engineering industry is not in equilibrium with our textile industry in general. Pakistan is a big name in textile production but stands nowhere in world when it comes to textile machinery/parts manufacturing. Notable contribution of this industry has been towards weaving and processing sector. Now these sector products are slowly entering the demise stage of a product life cycle. Normal manufacturers are experts in producing machinery of one to two major industrial sectors. Bigger units have facilities to compliment complete production process while medium scale manufacturers outsource some services from large as well as small scale setups and foundries. There are more than 45 units in direct manufacturing of textile machinery.

Textile Spare Parts

The textile spare parts manufacturing is also a segment of the textile engineering industry and this small-scale sector has traditionally experienced a strong presence in the light engineering cluster Faisalabad. Most intensive sections of this sector relate to textile weaving sector as Faisalabad is a hub of textile weaving and has more than 50,000 weaving units with more than 400,000 weaving looms of different types. Although parts manufactured are not of very good quality but still this sector has played



a vital role in the development of textile culture in Faisalabad. There are more than 160 manufacturing setups directly involved in textile spare parts manufacturing.

Agricultural Machinery

Having far lesser technological dependencies in production than textiles, agricultural machinery and implements manufacturing is tailored towards existing agricultural industry needs. Machinery like wheat threshers, motor and manual choppers, plough blades are made locally. There are more than 50 sizeable manufacturing units directly indulged for manufacturing of such products in the sector. Like textile machinery manufacturers, these units also outsource services like casting from existing small foundry units.

Foundry

Foundry sector supplements all light engineering related setup of the cluster. As these units are very small in scale and large in numbers, no reliable data could be found relating to the number of units involved in this industry. These units work as a subcontractor of large manufacturers with limited capacities.

Table 1: Light Engineering Cluster, Faisalabad

Number of Units	Textile Machinery: Small 27, Medium 13, Large 5 Textile Spare parts: Small 97, Medium 23, Large 2 Agricultural Machinery: Small 40, Medium 21, Large 11
Employment Generated	Around 2500
Capacity Utilization	80% to 90%

Source: Light Engineering Association Faisalabad

1.4 Other Cluster Actors

The industrial units that provide support services to core cluster actors in manufacturing of finished goods are recognized as other cluster actors. The brief overview of other actors in the context of light engineering cluster, Faisalabad is provided below.



Table 2: Other Cluster Actors, Light Engineering, Faisalabad

Description	Details
Raw Material Supplier	The major raw material is steel and scraps of steel. A fairly large number of material suppliers are present in the Faisalabad city. Their number is estimated to be more than Hundred. The material they supply, reach to them via different sources that include the imported material, locally processed material (Pakistan Steel Mill products) and scrap (local/imported). Manufacturers also source directly from scrap dealers. Most of the importers reside out of Faisalabad, i.e. Karachi and Lahore. Hence, the raw material suppliers can broadly be categorized into scrap dealers, retailers of imported material and dealers of the Pakistan Steel Mill.
Machinery Importers	Most of the machine importers reside in the nearby city of Lahore, whereas, only two of them reside in the cluster. There is huge gap between the technologies level of the cluster and the world; so, most of the discarded machines from the 1st world countries are imported as scrap. These machines are prepared for production locally. The big players also get the benefit of using the imported scraped machines, but they sometimes import the new machines as well.
Retailers	Numerous retailers of textile spare parts can be found on Railway Road market. These retailers primarily sell textile weaving machinery parts which has a very strong presence (more than 350000 weaving looms) in the cluster.
Traders	The manufactured goods are sold to the traders within the city and out of the city (country-wide). Each manufacturing concern has its own relationship with the dealers of the different areas of the country. The terms of sale and services are different between each manufacturer and trader.
Indenting Exporters	The indenting exporters received the trade lead from the international market and cater the orders, from the goods manufactured in the cluster. Bigger manufacturers export directly, while other have to rely on the indenters of export.
Freight Forwarding Agencies	The freight forwarding agencies are responsible for shifting the products, within and outside the cluster. There are nearly 35 freight forwarding agencies providing country wide services.

1.5 Geographical Location

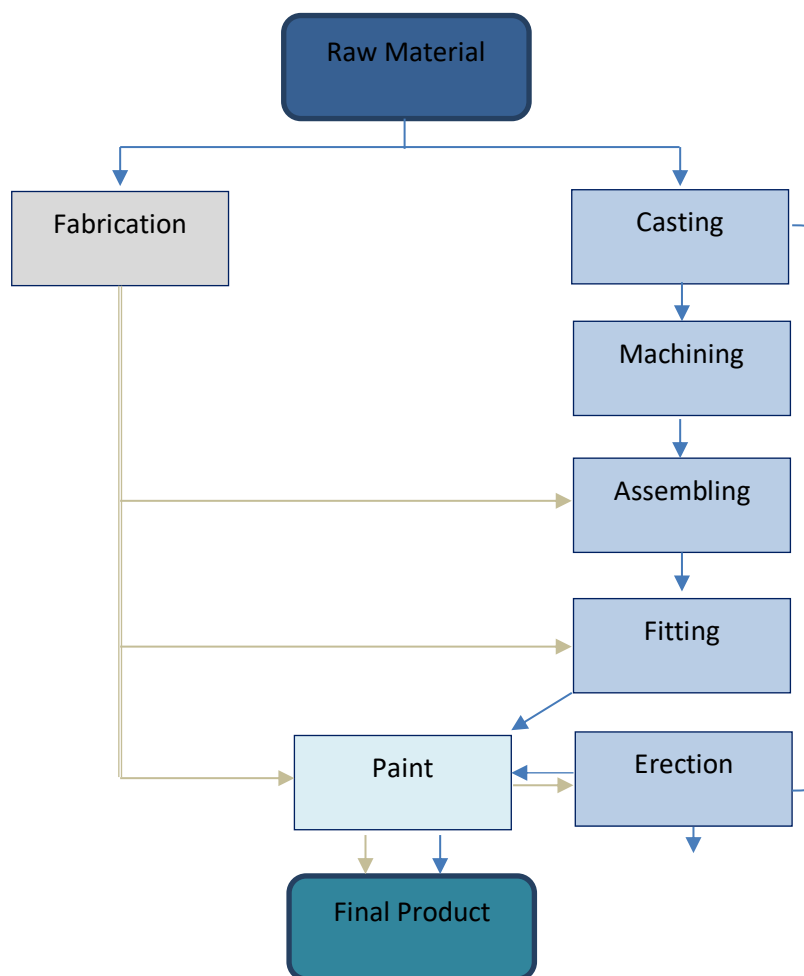
Geographically these light engineering and foundry setups and shops are concentrated on main Samundri Road of Faisalabad. Some manufacturers can also be found on Maqbool Road, which is a well-known industrial area. Textile spare parts have a separate market at Railway Road.

2 Analysis of Business Operations

2.1 Production Process

Production process depends on the type of desired product. Different textile/industrial machinery and agricultural implements can be casting related while others can be related to fabrication. Of course, a combination of both processes can be used in production of a specific machine. Normally relatively complex machinery consists of assembling of both casted and fabricated parts. Textile parts sector mostly caters to casting related products. Broadly the production process can be categorized into following parts:

Workflow differs with respect to products. Primarily divided into two categories i.e. fabrication and casting.



2.2 Current Cluster Scenario

Cluster is suffering from serious technological deficiencies. Lack of education among entrepreneurs, limited financial resources and change repellent culture has resulted in production facilities with primitive process techniques and obsolete machinery and equipment. Although some parts and accessories of sophisticated industrial machines (primarily textile industry) are being made but complete sophisticated textile machinery plants are being produced because of technologically obsolete facilities being used in manufacturing.

Although sizeable industrial units have tendency to use most modern and sophisticated imported machinery, however, smaller units entirely depend on local machinery, parts and expertise. Larger units also benefit from the services of this sector especially for parts of machinery and repairing. Even the locally manufactured low-tech textile machinery (e.g. auto looms, towel machinery & wheat threshers) is being exported to several countries like Bangladesh, Sri Lanka and some of the African countries.

A fairly large number of material suppliers are present in the Faisalabad city. The material they supply, reach to them via different sources that include the imported material, locally processed material (Pakistan Steel Mill products) and scrap (local and/ or imported). Manufacturers also source directly from scrap dealers. Most of the importers reside out of Faisalabad, i.e. Karachi and Lahore.

Within very limited means the light engineering cluster of Faisalabad is complimenting local textile and agriculture machinery pretty well but is clearly at a disadvantage with respect to technology and faces an uphill battle with technologically far better countries like China, India, Taiwan and Germany.

2.3 Quality Assurance

No real quality control system and standard is followed in the industry. Physical appearance and measurement fits are the only parameters considered for declaring a part of machinery fit. This makes reliability of machines and parts even more vulnerable.

2.4 Marketing & Sales

There is no proper system of Marketing and Sales techniques in this Cluster. Manufacturers have serious problem of advertisement and branding due to which they cannot promote sale of products. One other problem is that most of the better-quality products are exported due to which remaining products quality are not up to the standards. Moreover, the prices of the products are not according to the quality which creates another problem for sale.

Textile parts manufacturers have intense competition among themselves as lot of small manufacturers are engaged in this business. Textile machinery manufacturers make many kinds of machinery used in weaving, knitting, dyeing, and spinning industries. There are more than 150 manufacturers of textile machinery in Faisalabad and have strong competition among themselves. Basis of competition rang from procurement of raw materials to product pricing and sales. Agricultural machinery and implements manufacturing units are approximately 70 in the region and again portray strong competition among them.



Textile spare parts are consumed locally. A small quantity of parts is exported only to those countries that have already imported Pakistani machinery. It is done only by manufacturers whose machinery has already been exported to the particular country. Locally made parts are far cheaper than imported parts but do have quality drawbacks as well. Complex spare parts that are not made locally have imports as the only substitute.

2.5 Financing

Almost all the registered commercial banks of Pakistan have their branches in the cluster and are providing financing at competitive rates.

The funding from financial institutions is not popular among the industry stakeholders due to the interest factor associated with financing. Government does not have facilities for special financing scheme for Light Engineering sector. It has not been introduced by any of the financial institution in Faisalabad till now.

2.6 Human Resource Management

Due to the labor intensive and manual nature of work, education is not considered as a major factor for business owners. However, they require technical skilled workers who have the knowledge of business operations and skills required for carrying out respective jobs.

Human resource is available in abundance and skills are traditionally inherited. Most of the labor is semi-skilled and is trained on the job. Furthermore, there are no specialized marketing or accounts departments in small units. These units generate sales on the basis of personal contacts. Business accounts are not maintained properly; therefore, certain problems related to tax return, monitoring and evaluation are common in this cluster. The associated staff and supervisors are mostly diploma holders.

2.7 SWOT Analysis

Strengths

- Demand Driven Industry
- Strong presence in local market
- Availability of cheaper loan
- Geographically situated at ideal location
- Most setups are self-employed and have simpler management structure

Weaknesses

- Obsolete technology, machinery and equipment used for manufacturing
- Availability of raw material and inconsistent raw material prices
- Unskilled labor (only 1% have certification/diplomas from technical/training institutions)
- Absence of research and development culture
- Lack of synergies between Government support institutions and industry



- Lack of standardization and quality control
- Non-sophisticated marketing like branding & grading
- Unrecognized vendor base
- Limited access to information
- Energy cost being high

Opportunities

- Import substitution. Pakistan imports machinery worth approximately US \$600 million annually for textiles only
- Free trade agreements like SAFTA and Pakistan's recent attempt to get included in ASEAN
- Lesser sophisticated African markets
- Research and development and reverse engineering

Threats

- Competition from countries like India & China, which have more advanced engineering technology base
- Lagging in technology, hence producing substandard goods that hamper consumer perception about local engineering products
- Unorganized manufacturing and vendor base and unhealthy competition
- Uncertainty in inputs costs
- Allowance of duty-free textile machinery
- Increasing duties on import of machinery/tools used in manufacturing of textile machinery and parts
- Rising prices of steel
- Non-existence of research and development culture likely to widen technology gap more and more with the passage of time.

3 Institutional Setup

3.1 Entrepreneurs' Associations

Faisalabad Foundry and Engineering Industry Group (FFEIG)

Address: Main Samundri Road, Darul Ehsan Colony, Faisalabad

Tel: (+92) 41 8724991

Email: info@ffeig.pk

Web: www.ffeig.com.pk

Faisalabad Chamber of Commerce and Industry (FCCI)

Address: FCCI Complex, East Canal Road, Faisalabad

Tel: (+92) 41 9230265-67

Fax: (+92) 41 9230270



Email: www.fcci.com.pk

3.2 Support Institutions

Regional Office – SMEDA

Address: C/o FCCI, Faisalabad
 Tel: (+92) 3236054754
 Email: Shabankhalid540@gmail.com
 Web: www.smeda.org.pk

Regional Office – Trade Development Authority of Pakistan (TDAP)

Address: Taj Colony, Shiekhpura Road, Faisalabad
 Tel: + (92) 41 9210202
 Email: Tdap@tdap.gov.pk
 Web: www.tdap.gov.pk

Regional Office – Punjab Small Industries Corporation (PSIC)

Address: Nalka Kohala Road, Faisalabad
 Tel: + (92) 41 9220041
 Email: info@psic.gop.pk
 Web: www.psic.gop.pk

4 Major Issues and Problems

- To date no special financing scheme for the foundry and light engineering cluster of Faisalabad has been introduced by any of the banks.
- Biggest issue in this aspect has been the spread of technology gap between local manufacturers and modern trends. Modern machinery and equipment are too expensive for common entrepreneur to be affordable even through bank financing.
- There exists new and unexplored market at local and international level. Lack of modern marketing and branding techniques is an issue restricting the growth and development of this cluster, as there is not any specialized marketing department for some of the medium and mostly all of the smaller manufacturers.
- The cluster is suffering from serious technological deficiencies. Lack of education among entrepreneurs and staff, limited financial resources and change repellent culture has resulted in production facilities with primitive process techniques and obsolete machinery and equipment.
- The cluster is severely short on skilled and technically qualified labor. Only 1% workers have certificate / diplomas from technical training institutions. This lag has resulted in practical workers unawareness about latest production techniques.
- Shortage of good quality technical training institutes is adding to this trouble.
- Synergies between practical industry demand and educational curriculum are also very minimal. As a consequence, there is not just shortage of skilled workers but it has made them unwilling to accept technical training as a mode of their improvement on job.



- The major component for production operations is electricity which is very expensive and affects the price of finished goods.
- Apart from the high prices, the availability of gas and electricity is a severe issue in the cluster, especially electricity becomes nonexistent in summer and gas goes nonexistent in winter, which has severely affected the cluster progress.

5 Investment Opportunities

Keeping in view the strong presence of Textile Industry and Agriculture Base of the Faisalabad area, there is an ample opportunity of investment in the cluster. Some potential projects for investment are as follows:

- Specialized Components Manufacturing Unit
- Reverse Engineering of Products and Parts
- Computer Aided Product/Pattern Designing Center
- Sand Processing Plant
- Heat Treatment Units
- Testing facilities
- Trading (Relevant Machinery Imports)
- Local Machinery Manufacturing
- Consultancy (Technology, Production Processing, Supply Chain Management and Export marketing)