

2019

Cluster Profile

Electrical Home Appliances, Gujranwala



Turn Potential Into Profit

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1 Description of Cluster

1.1 Introduction

Gujranwala is playing a major role to support the economy of Pakistan. It is an industrially developed district in the country. Keeping in view the availability of raw-material and skilled labor, Gujranwala district supports a variety of industries. It is considered manufacturing hub of electrical home appliances, light engineering goods, kitchen utensils, plastic products and ceramic sanitary ware.

Electrical Home appliances industry initially originated from the fan industry that existed at a small scale level in the nearby city of Gujrat before the partition. Since, Gujranwala was already famous for the production of iron, steel and other metal products, so the appliances manufacturing flourished in Gujranwala region.

There are approximately four hundred electrical home appliances manufacturing units in Gujranwala city and adjoining areas. Majority of the units are small and cottage level with exception of few large ones, with famous brand name across Pakistan. Largely, small and cottage level units are operating as sub-contractors of large units operating in Gujranwala and other major cities in Pakistan, such as Lahore, Karachi, Gujrat etc. The small scale units are the actual backbone of this industry as they provide employment to a large number of people and collectively account for more than 90 percent of the domestic market.

The cluster predominantly comprises of semi-mechanized manufacturing facilities with limited automation and adaptation of latest technology. Over the years this cluster has expanded and resulted in a big chain of home appliances manufacturing concerns in the area and is still growing. Around 4,500 people are directly employed by the cluster with an overall investment close to PKR 1,400 million¹.

1.2 Defining the Products

Home appliances, also termed as domestic appliances, are predominantly electrical machines, which helps in household functions, such as cooking, cleaning or food preservation. Home appliances can be broadly categorized into three classifications, which includes, small appliances, major appliances and consumer electronics.

The main products of the domestic electrical goods produced in the cluster mainly include the following:

- Electric Fans (all types)
- Washing Machines and Spin Dryers
- Room Air Cooler

¹ Gujranwala Chamber of Commerce & Industry (GCCl)

- Electric Motors and Pumps
- Stabilizers
- Tube Light Fitting
- Electric Heaters, Geyser and Ovens

The production of Fans, Washing Machines, Air Coolers and Motor & Pumps dominates the manufacturing of appliances in the cluster. The cluster is advancing towards the production of consumer electronics made of plastic.

1.3 Core Cluster Actors

There are more than 400 manufacturing units across the Gujranwala city, majority of the units are operating at small scale. The breakup of the manufacturing units is as follows:

Table 1: Electrical Home Appliances Cluster, Gujranwala

Product Description	No. of Units	Installed Capacity (No. of Items)	Investment (Rs. 000)	Employment
Electric Fans and Air Coolers	149	4,223,675	514,399	1,570
Motor and Pumps	130	622,850	90,271	947
Washing Machines	95	376,800	205,684	982
Other Consumer Goods / Electronics	28	895,450	606,573	1,072
Total	402	6,118,775	1,416,927	4,571

Source: Gujranwala Chamber of Commerce & Industry (GCCCI) and Directory of Industrial Establishments Industries & Commerce Department Government of Punjab <https://doi.punjab.gov.pk/>

Assemblers: - are the principle actors in the cluster, as they are specialized in assembling. They use the parts manufactured by the vender as per the product requirements / specifications. One assembler usually works with multiple vendors. Assembling parts are generally provided to assemblers either by the vendors or imported. The parts undergo inspection, while received at store and afterwards undergone for further process. Manufacturers from other cities also source different components from Gujranwala wholesale market and assemble the appliances at their product facilities.

Vendors / Manufacturers: - the industry is highly vender based. There is not a single unit in Gujranwala in which all the parts are manufactured and assembled in-house. Each vender is usually specialized in manufacturing one part. Some home based manufacturing is also present, mostly in the form of people winding motors in their homes and supplying to the market. Vendors are not only supplying the parts to assemblers but also to the wholesale market. This segment of



the cluster is very important, as most of the manufacturing activity is actually performed by the vendors.

1.4 Other Support Actors

The key cluster support actors who provide support services to core cluster in the area are including but not limited to raw material suppliers, machinery suppliers and finishing and packaging service providers.

Table 2: Other Support Actors, Electrical Home Appliances

Description	Details
Raw Material Suppliers and Traders	<p>The major raw materials required for manufacturing of different kinds of ‘Electrical Home Appliances’ mainly include ‘Metal Sheets’ Cast Iron Components, Metal Pipes, Copper Wires, Motors, Bearing and etc. Besides that small spare parts and electrical components (i.e. Capacitors, Bearings, Rotor Stators, Circuits, Control Valves, Buttons, Wires etc.) are also widely used in the manufacturing of different type of home appliances.</p> <p>The suppliers and traders of stated materials and components are operative in the cluster. Predominantly, larger units directly source the required items from the manufacturers of main suppliers. Whereas, small and cottage size units source the items as per their requirements from the local traders in Gujranwala. Metal sheets are available in Gujranwala, Lahore and Karachi. Capacitors are largely imported from China, Korea and Taiwan. Bearings, Nuts and Bolts are both manufactured in Gujranwala as well as sourced from Lahore and Karachi.</p> <p>The raw material suppliers and traders are playing a very crucial role for ensuring the timely supply of items to the manufacturers.</p>
Packaging	Around 25-30 units are providing packaging and wrapping services to Electrical Home Appliances Cluster.
Plastic Components Manufacturers and Suppliers	Around 30 units are operating in Gujranwala region to provide small plastic components and parts.
Machinery Manufacturers and Suppliers	The major machinery used in manufacturing of ‘Electrical Home Appliances’ mainly comprises of Lathe, Drilling, Grinding, Winding and Injection Molding machines. Besides that, Melting Furnace, Welding and Powder Coating Plants and Electronic Digital Measuring equipment is also required by the manufacturers.

These machines are easily available in the local market. A number of machinery manufacturers and suppliers are present in the cluster. Majority of manufacturers are using locally manufactured machines. However, few large units are using both new and second-hand imported machines.

CNC machines are mainly imported from China. Machinery suppliers from Karachi and Lahore import both used and new injection molding machines from various countries including Japan, Taiwan, England, Europe, Malaysia and China for fulfilling the requirement of the cluster. Other machinery and equipment for plastic processing including crusher, mixer, hopper and dye shop machines are manufactured by engineering sector of Gujranwala and Lahore.

The dyes and molds are predominantly imported from China by the manufacturers as per their design and requirements.

1.5 Geographical Location

The electrical home appliances cluster is scattered around Gujranwala city; however main concentrations are at:

- Industrial Estate (I & II)
- Hafizabad Road
- Pindi Bypass
- Kangniwala

1.6 Current Cluster Scenario

Electrical Home Appliances Cluster, Gujranwala has huge potential and is critical to SME growth in the region. However, despite the economic importance, the cluster is largely unorganized and suffers from technological issues and institutional weakness. The manufacturers are still working on conventional lines with limited automation and adaptation of latest machinery. There is dire need to transform the cluster towards automation to compete with international brands and Chinese products. Simultaneously, there is also need of the time to comply with the international environmental, management and occupational health and safety standards.

Presently, cluster is not only fulfilling the domestic need of consumer but is also exporting to Middle East, Africa and Central Asia on small scales.

2 Analysis of Business Operation

2.1 Production Process Flow

Production operation and manufacturing process varies for different type of appliances. Therefore, manufacturing units have distinctive production process depending upon the nature and type of goods produced. Primarily, casting and fabrication are two key distinctive processes involved in manufacturing of parts of home appliances in Gujranwala. According to the requirement, parts and items are either casted or fabricated. Afterwards these casted or fabricated finished parts are assembled to produce the required finished goods.

The brief explanation of these processes along with allied production operations are as follows:

Casting:- is a manufacturing process in which a liquid material is usually poured into a mold, which contains a hollow cavity of the desired shape, and then allowed to solidify. After solidification and cooling castings are taken out of the molds. Casting is most often used for making complex shapes that would be otherwise difficult or uneconomical to make by other methods. Majority of castings, especially large ones, are made in sand molds. Sand is mixed with a binder and is pressed in a wooden pattern that leaves a cavity in the sand as per the pattern of the particular product. Permanent metal molds are also used to make different kind of small and simple parts.

Fabrication:- is the process of creation of metal structures of certain shape through cutting, bending, edging and molding of metal sheet. It is a value-added process involving the creation of machines, parts, and structures from various raw materials. Fabrication shops are employed by contractors, original equipment manufacturers and value added resellers.

Assembling:- is a manufacturing process in which different parts are added as the semi-finished assembly that moves from workstation to workstation where other parts are added in sequence till the final assembly (i.e. final product) is produced.

Figure 1: Process Flow Diagram for Casted Parts / Items

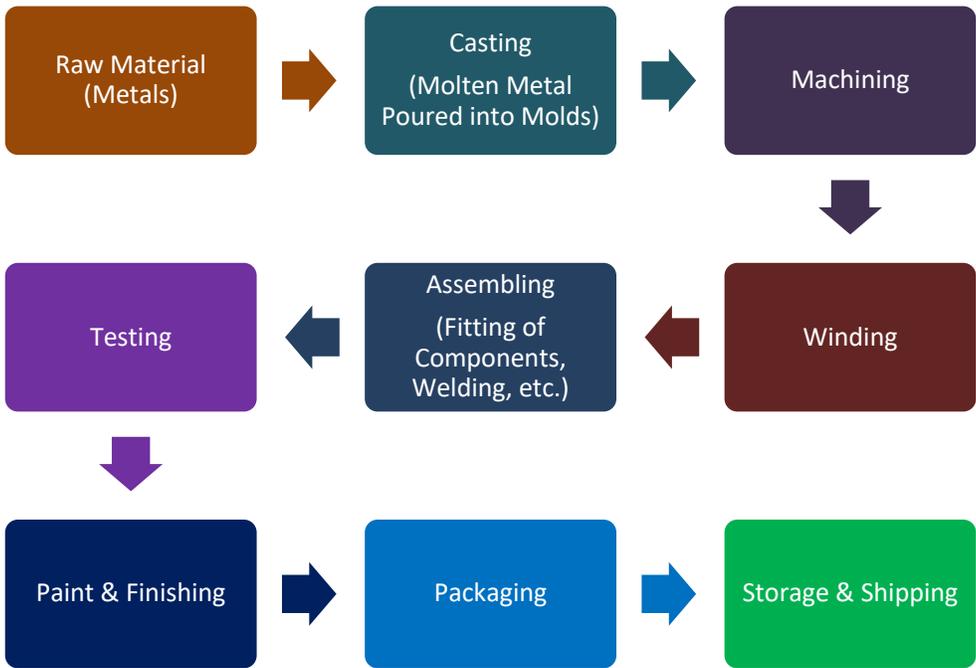
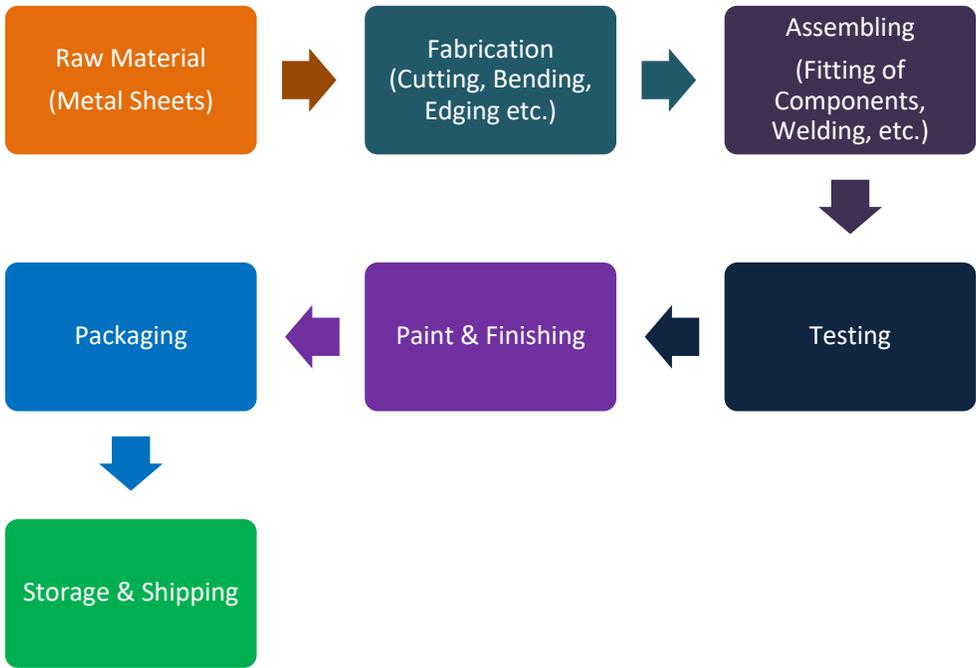


Figure 2: Process Flow Diagram for Fabricated Parts / Items



2.2 Raw Materials

There are different basic raw materials used for manufacturing of 'Electrical Home Appliances'. A typical electric home appliance product requires the following raw materials:

Metal Sheets – aluminium and aluminium waste is imported and melted to convert into different gauges of metal sheets.

Cast Iron Components – bought from foundry units and machined in-house

Metal Pipes – different lengths of metal pipe and mild steel

Plastic Resins, Parts and Pigments – various kind of low grade resin and hard plastic is being used for manufacturing of different parts. Generally, manufacturers mix recycled materials in fresh resin to reduce the cost of production. Similarly, pigments and chemicals are also used for coloring, brightening and cleaning of appliances.

Capacitors, Bearings, Copper / Aluminium Wire – these materials are mainly imported from China through suppliers network. Capacitors are imported from Taiwan, Korea and China; however, few units in Gujranwala, Gujrat and Lahore are also involved in manufacturing of capacitors.

Chemicals and Color Coatings – mainly imported from China

Rotor Stators, Winding Paper, Motors, Circuits and Control Valves – many cottage size and small units are manufacturing these items in Gujranwala.

Screws and Nuts – used for assembling and joining different parts of appliances.

2.3 Technology Status and Quality Standards Requirement

There is lack of use of modern manufacturing machines and techniques by the cluster. Currently, semi-automatic machinery is being used by the industry. The machines are locally made, labor oriented and inexpensive as compared to modern machinery. Moreover, quality of local made mold is not good that results in low quality and issues in in product standardization. Large size units are outsourcing their mold requirement from China but small size and cottage level units cannot afford the outsourcing and are dependent on conventional die making.

No specific quality standards and certifications are mandatory or being practiced by the industry. The facilities for material analysis and mechanical testing are not available in the cluster and so quality and product standardization is an area of concern for the manufacturers. Generally, major testing and quality checks are carried out through experience basis. However, product quality tests facility related to Voltage, Temperature Rise and Revolution per Minute (RPM) is available in the cluster.

2.4 Sales and Marketing Analysis

Gujranwala Electrical Home Appliances Cluster primarily caters to the demand of local market. A very few manufacturers are also exporting the home appliances to Middle East, Africa and Sri Lanka.

The major local market for this cluster is all across Pakistan. In order to target local market, manufacturers have developed a network of distributors across the country. Usually, 30 days' credit cycle is maintained in context of local trades.

The sales and distribution network flow in local market trade is as follows;



Small manufacturers and vendors usually supply their products to the wholesalers and retailers of other cities. Sales agents are also working in this sector. They book orders from other cities and supply the required quantity after purchasing from small manufacturers.

Some of the manufacturers also have their own retail and distribution arrangements for distribution of products. Additionally, export agents and local sales agents are also working to facilitate sales of home appliances.

2.5 Global Trade

There is huge export potential for Pakistani Electrical Home Appliances in the Middle East, African and Central Asian market. The export trend of electric home appliances from Pakistan in recent years is provided below:

Table 3: Pakistan's Exports of Electrical Home Appliances (Value in US \$ Thousands)

Reporting Countries	2014	2015	2016	2017
Saudi Arabia	32	44	36	38
Kenya	0	0	0	19
UAE	0	16	17	16
Others	55	26	43	14
Total Exports	87	86	96	85

Source: Trade Map (HS Code: 8509)

Presently, Pakistan is importing around US \$ 12.75 Million home appliances from different countries of the world.

Table 4: Pakistan’s Imports & Partners of Electrical Home Appliances (Value in US \$ Thousands)

Reporting Countries	2014	2015	2016	2017
China	11,233	14,878	13,109	11,963
Malaysia	272	273	286	401
UAE	128	94	86	93
Hungry	29	62	61	53
France	115	140	121	45
Others	218	235	278	210
Total	11,995	15,682	13,941	12,765

Source: Trade Map (HS Code: 8509)

2.6 Financing

The funding from financial institutions is not popular among the industry stakeholders due to high interest rates and cumbersome banking procedures. Generally, investors rely either on their personal investment or friends and family sources of financing. However, almost all the registered financial institutions of Pakistan have their branches within the geographical area of the cluster and are providing the financing at competitive rates.

2.7 Human Resource Management

The electrical home appliances cluster does not seek highly qualified workforce to perform technical and management operations. Due to semi-automatic nature of technology, technical operations are associated with skilled HR having training, diploma or certification; while management positions are generally occupied by the owner managers. Human resource is available in abundance and skills are traditionally inherited. Most of the labor is semi-skilled and is trained on 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.

2.8 SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Diversified range of product mix and competitive pricing • Easy availability of labor • Flexibility in production runs with short lead times • Strong vendor network 	<ul style="list-style-type: none"> • Technological obsolescence and lack of availability of modern technology • Small and cottage size units with weak management skills and structures • No internationally accredited testing laboratory



<ul style="list-style-type: none"> • Good entrepreneurial skills 	<ul style="list-style-type: none"> • Limited product innovation and lack of branding • High utility costs (Electricity and Gas) • Limited framework for Intellectual Property (IP), Trade Mark or Patents
Opportunities	Threats
<ul style="list-style-type: none"> • Huge potential for exports in Middle East, Africa and Central Asia • Rising demand and growth potential due to increased urbanized population 	<ul style="list-style-type: none"> • Domestic / international political situation • Import from China is a continuous threat to the local manufacturers • Changing customer preferences

3 Institutional Setup

3.1 Entrepreneur's Association

Gujranwala Chamber of Commerce & Industry (GCCCI)

Address: Aiwan-e-Tijarat Road, Trust Plaza, Gujranwala

Tel: +92 55-9200391-4

Web: www.gcci.org.pk

3.2 Support Institutions

Regional Business Center (RBC) – Small & Medium Enterprises Development Authority (SMEDA)

Address: GBC Building, Aiwan-e-Iqbal Road, Trust Plaza, Gujranwala

Tel: +92-55-3734600

Web: www.smeda.org.pk

Trade Development Authority of Pakistan (TDAP)

Address: 20-E, Satellite Town, Pasroor Road, Gujranwala

Tel: +92-55-9200138 - 9

Web: www.tdap.gov.pk

Punjab Small Industrial Corporation (PSIC)

Address: Small Industrial Estate no. 2, G.T.Road, Gujranwala

Tel: +92-55-4283074



Web:	www.psic.gop.pk
Gujranwala Business Centre (GBC)	
Address:	Aiwan-e-Tijarat Road, Trust Plaza, Gujranwala
Tel:	+92-55-9200868
Web:	www.gbc.org.pk
Gujranwala Tools, Die and Moulds Center. (GTDMC)	
Address:	Sialkot Bypass Chowk, Sialkot Road, Gujranwala
Tel:	+92-55-3827321 - 23
Web:	www.gtdmc.org.pk
Light Engineering Service Center (LESC-TEVTA)	
Address:	Small Industrial Estate no. 1, G.T. Road Gujranwala
Tel:	+92-55-9200661, 9200800
Fan Development Institute (FDI)	
Address:	Gorali, G.T. Road, Gujrat

3.3 Banks and Financial Institutions

Almost all the registered financial institutions of Pakistan have their branches in the cluster and provide the financing at competitive rates.

4 Major Issues and Problems

Following are the major issues restricting the growth and development of home appliances manufacturing cluster in the region:

- High wastage rate due to use of old technology. Majority of the manufacturers are using old technology and locally manufactured machines that result in high wastage and low quality production. The use of technology automation, especially CNC Machines, is required for quality products.
- There is an urgent need to improve the product quality, standardization and designing.
- Poor quality of locally manufactured / available metal sheets.
- Lack of awareness about national and international standards.
- Availability and cost of utilities, especially electricity and gas, are the major concern for the manufacturers.
- Lack of appropriate marketing and branding practices restricted the growth of cluster to expand both at domestic and international levels. The units do not have specialized



marketing departments. Similarly, limited emphasis is given on website development, product advertising and participation in exhibitions.

- The education level of workers / labor working in this cluster is very low which also creates difficulties in learning and accepting new tools and techniques.
- Continual rise of imports of low cost Chinese appliances in the market is a major concern for the cluster manufacturers. As consumers are preferring to buy Chinese products, which are better in designs, quality and cost.

5 Investment Opportunities in Cluster

The growing demand of home appliances at domestic level as well as potential of export offers many lucrative investment opportunities for the investors. Following are some potential projects.

- Manufacturing of Energy Efficient Home Appliance
- Melting and Rolling Unit
- Retail Chains and Buying Houses for Export Orders
- Import of Automatic Machinery
- Establishing Vendors Network
- Joint Ventures with International Brands