

**PUNJAB SMALL INDUSTRIES CORPORATION
GOVERNMENT OF PUNJAB**

**DIAGNOSTIC STUDY FOR AUTO PARTS
MANUFACTURING CLUSTER, MANDI BAHA-UD-DIN**

**FINAL REPORT
2015-16**



**Building a better
working world**

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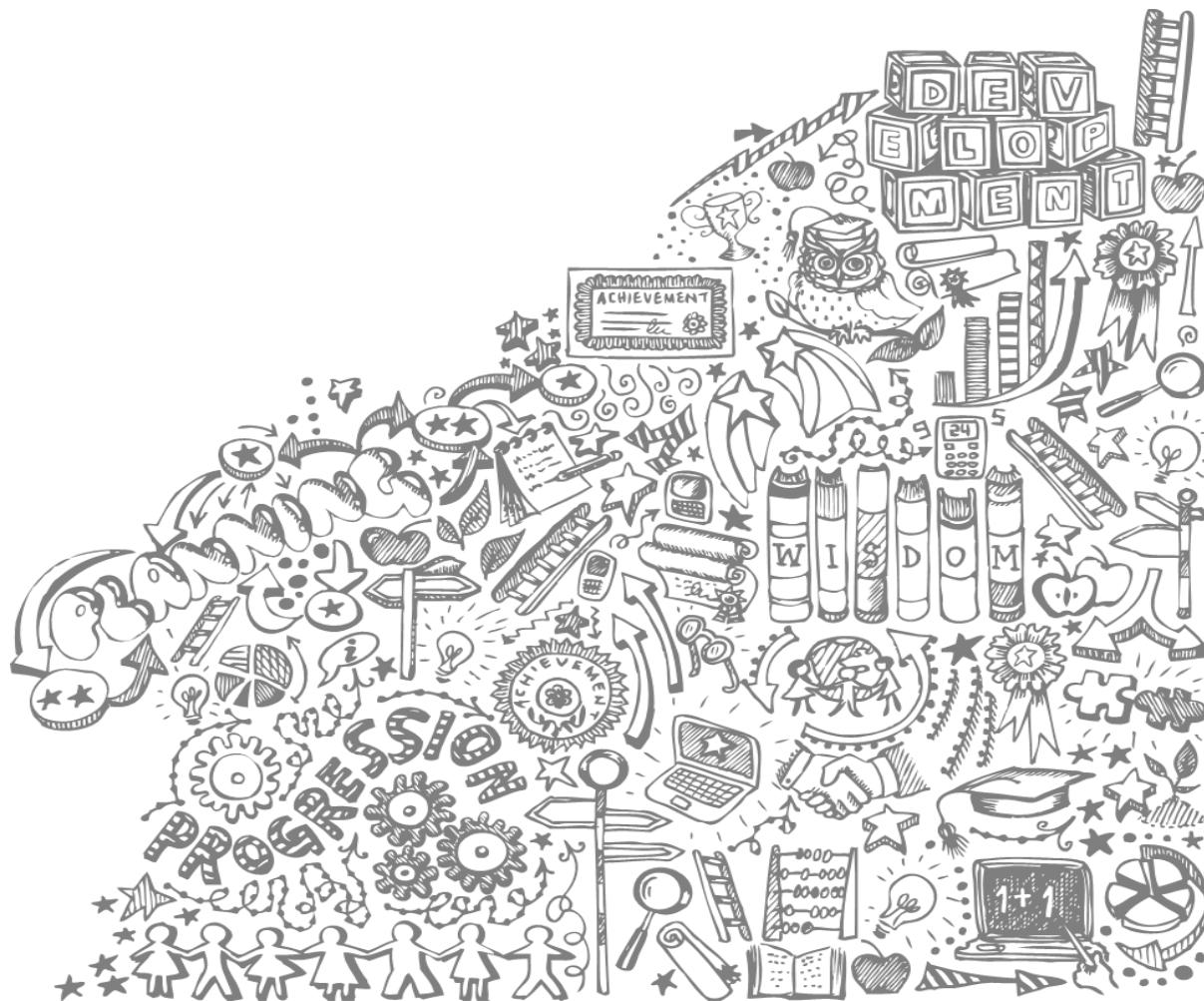


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ACRONYMS

| | |
|--------|--|
| CAD | Computer Aided Design |
| CAM | Computer Aided Manufacturing |
| CBU | Completely Build Up |
| CDC | Cluster Development Center |
| CFC | Common Facility Center |
| CKD | Completely Knocked Down |
| CNC | Computer Numerically Controlled |
| EY | Ernst & Young Ford Rhodes Sidat Hyder |
| GDP | Gross Domestic Product |
| GtCCI | Gujrat Chamber of Commerce and Industries |
| HR | Human Resource |
| LCV | Light Commercial Vehicles |
| OEM's | Original Equipment Manufacturer |
| PAAPAM | Pakistan Association of Automotive Parts and Accessories Manufacturing |
| PAMA | Pakistan Automobile Manufacturing Association |
| PSIC | Punjab Small Industries Corporation |
| R&D | Research & Development |
| SIE | Small Industries Estate |
| SME | Small & Medium Enterprise |
| SMEDA | Small & Medium Enterprise Development Authority |
| SWOT | Strengths Weaknesses Opportunities & Threats |
| TDAP | Trade Development Authority of Pakistan |
| TEVTA | Technical Education and Vocational Training Authority |
| USD | United States Dollars |
| GTDMC | Gujranwala Tools, Dies and Moulds Center |
| CPEC | China Pakistan Economic Corridor |
| WTO | World Trade Organization |



1. Introduction

The statutory body of PSIC was established in 1972 with the mission to promote, sustained industrial development through provision of market driven credit, infrastructure and technological support contributing to employment generation, poverty alleviation and socio-economic uplift of the province.

The Punjab Small Industries Corporation Bill, 1973 was passed by the Provincial Assembly on 13 July 1973. Since then PSIC has been a sound contributor to the small industrial development in the province through its various schemes. Recent transition of industrial climate and liberalization of the total economic environment within the country and international area has witnessed tremendous change in domestic as well as international market. PSIC's story of excellence is spread over more than four decades of transitive growth and development of small scale industry. PSIC has proved its strength in the country by exhibiting a progressive attitude towards modernization, up gradation of technology, quality consciousness, strengthening linkage with large and medium scale enterprises and boosting exports of the products from small enterprises. PSIC is an important instrument for enterprise building, micro economic development and employment generation and poverty alleviation.

The development and upgrading of clusters is an important agenda for economic growth in national economies. Handicrafts clusters development initiatives are an important new direction in economic policy in macroeconomic stabilization, privatization, opening of markets, and reducing the cost of doing business. In this regard, our consultancy services are sought for diagnostic study of industrial and handicrafts clusters in Gujranwala, Wazirabad, Gujarat and Mandi-Baha-ud-Din districts of Punjab.

1.1. Background

PSIC awarded this assignment to Ernst & Young Ford Rhodes Sidat Hyder (EY) for the study "Diagnostic Study of Industrial and Handicraft Clusters in Punjab for Gujranwala, Gujarat, Wazirabad & Mandi Baha-ud-Din". Work was awarded by PSIC on February 22, 2016 and the kick-off meeting was held on March 17, 2016 while the Inception Report was submitted to PSIC on April 15, 2016. The work included preparation of diagnostic study reports for following 12 clusters:

- ▶ Plastic Furniture, Gujranwala
- ▶ Kitchen Ware (metal and stainless steel), Gujranwala
- ▶ Sanitary Fittings, Gujranwala
- ▶ Ceramic/Sanitary Ware, Gujranwala
- ▶ Light Engineering, Gujranwala
- ▶ Domestic Electrical Appliances, Gujranwala
- ▶ Farm Agriculture Machinery/ Implements, Daska
- ▶ Cutlery and Allied Goods, Wazirabad
- ▶ Ceramics/Pottery, Gujarat
- ▶ Fan and Light Engineering, Gujarat
- ▶ Wood Furniture, Gujarat
- ▶ Auto Parts Manufacturing, Mandi Baha-ud-Din

This report covers the Auto Parts Manufacturing cluster in Mandi-Baha-ud-Din

1.2. About Survey

We have carried out an industrial survey of the cluster. The sample size for survey was based on 90% level of confidence and error margin of 10%. Based on a total population of 48 industries as per then available list, the sample size of 25 has been selected. We carried out 30 surveys in the cluster. The results of survey are presented in the relevant section.

1.3. Overview of Industries in Punjab

Punjab is the most populous province of Pakistan and has a large number of industries. As per data of 2010 provided by Directorate of Industries, there are around 17,800 industries in Punjab falling under a wide array of over 200 clusters including large, medium and small units. The area specified for this study i.e. Gujranwala, Gujrat, Wazirabad & Mandi Baha-ud-Din has over 3,800 industries. More than 3000 of these industries can be categorized in the above mentioned 12 clusters.

1.4. Mandi-Baha-ud-Din District Overview

Mandi-Baha-ud-Din is a district of the Punjab province of Pakistan. It is bordered on the northwest by the Jhelum river, on the southeast by the Chenab river (which separates it from Gujranwala district and Gujrat district), and on the southwest by the Sargodha district.

The district has an area of 2673 square kilometer (Sq. Kms) comprising of three Tehsils named Phalia, Malakwal and Mandi-Baha-ud-Din. Punjabi is the most commonly spoken language, and Urdu is also widely spoken. According to 1998 census the population of Mandi Baha-ud-Din was 1,160,552 out of which 84.80% lived in rural areas while 15.20% lived in urban areas. Population density is 434.2 per sq. Km. Literacy rate of district is 47.4%.

There are 5 technical and vocational institutes. Main occupations of the district include agriculture work, elementary occupation, service work, crafts & related trade, professionals and machine operators. Mandi Baha-ud-Din has around 897 industrial units including cottage industries. It is famous for agricultural products and auto body parts.

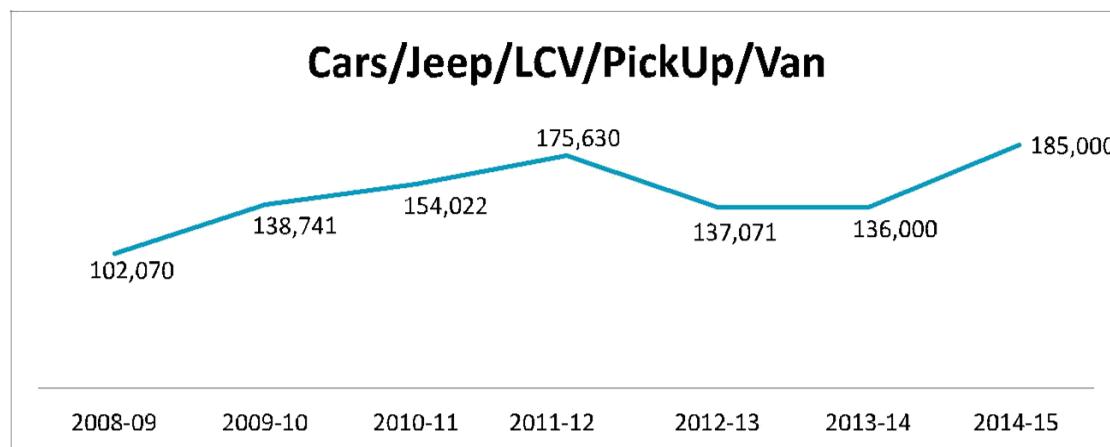


2. Cluster Profile

2.1. Auto Parts Manufacturing Industry in Pakistan

In Pakistan, the present production capacity of cars including Vans/JEEP/Pickups/LCVs is 285,000 against which 185,000 units were produced in 2014-2015, 136,000 units in 2013-2014, 136,000 in 2012-2013 and 175,526 in 2011-2012. Low production volumes are mainly due to imports of cars in 2011-2012 (56,973 units), 2012-2013 (45,481 units), 2013-14 (29,036 units) and 2014-15 (23,000) units.

Production in the country during the first eight months from July 2015 to February 2016 rose to 149,000 units compared to 102,000 units in the same period last year, but mainly due to introduction of new models.

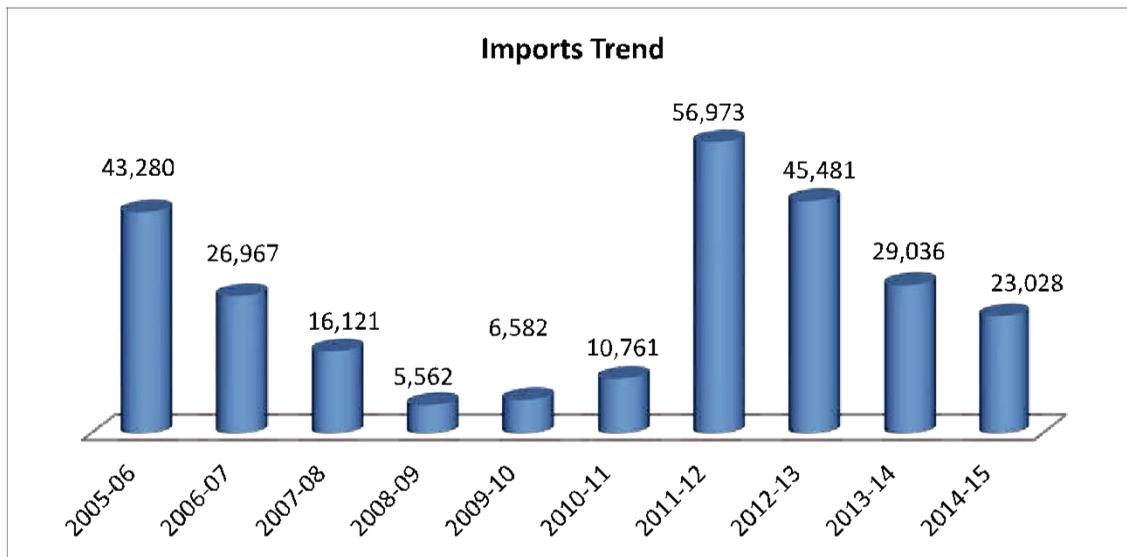


The car industry currently comprises of three large players, Pak Suzuki with 50% of share, Toyota with 34% share and Honda with 26% share. Share of 1300-1800 cc segment is 52 percent followed by 800cc with 36% and 1000 cc with 12%.

Capacity-wise Production of Cars

| Vehicle Type | 2000-01 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
|----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1,300-1,800 cc | 17,664 | 60,360 | 62,111 | 66,299 | 60,223 | 56,920 | 78,982 |
| 1,000 cc | 15,716 | 23,473 | 25,287 | 28,888 | 12,785 | 17,209 | 19,209 |
| 800 cc | 9,299 | 37,957 | 46,574 | 59,068 | 47,324 | 42,476 | 54,333 |
| All cars: | 42,679 | 121,790 | 133,972 | 154,255 | 120,332 | 116,605 | 152,524 |

There is reduction in the allowable age limit of the cars being imported, so imports have decreased between 2011-12 and 2014-15



Truck and bus manufacturing segment of Pakistan's automotive industry consist of ten assembly plants that have combined capacity of around 29,000 vehicles per annum against which only 5,677 units were produced in 2014-2015. There are only two noteworthy manufacturers in Pakistan i.e. Hino Pak Motor Limited and Afzal Motors Limited (Daewoo).

Auto Parts Manufacturers

There are around 2,000 units in the auto vendor industry in Pakistan; about 500 are registered vendors with assemblers, i.e. original equipment manufacturers (OEMs).

There are two segments in auto parts sector:

- ▶ Sales to OEMs for the assembly of new cars
- ▶ The replacement market

The OEMs provides the blueprint that is manufactured to exact specifications required by the local firm. There does not appear any research and designing in the manufacturing process.

While many vendors make their own moulds and some engage in the reverse engineering, true product development is generally not taking place to the level expected of Tier 1 suppliers.

Major benefits of relationship with the OEMs are knowledge spill over in the production process and the certainty of orders that allow part of the manufacturers to undertake investments.

The auto vendor industry constitutes 90% of small to medium-sized family owned enterprises (SMEs), of which 95% are self-financed. These units produce a wide range of parts also for the replacement market. Through indigenous, technical resources and technical tie-ups with some well-known global companies, the industry has by and large developed into a well-organized sector.

Engineering Development Board (EDB's) under ministry of industries is working for the promotion of auto parts industry and to strengthen the linkages between the vendors and the

local manufacturers. It is projected that the automotive industry contribution to GDP is around 2.3%.

At least 78% of the national demand for automotive parts - also called automotive components or just auto parts - is being met by imports, while local manufacturers cover about 22%.

Automotive Development Policy (ADP 2016-2021)

Automotive Development Policy (ADP) has been developed with an aim to provide a solid framework to strengthen the sector further, laying down a comprehensive, well-defined roadmap that aims essentially to protect the interests of the consumers and raises the safety, quality and environmental standards to meet the challenges of the highly competitive export market.

One of the major initiative in this policy that will benefit the auto body parts industry is establishment of Pakistan Automotive Institute (PAI) for planning and implementation of activities relating to the development of the automobile industry, particularly research, education, technical guidance relating to the quality improvement, safety inspections and environmental preservation as well as development of a database covering technical information relating to the automobile industry. This will also adopt merger of newly- created PAI with automotive testing and training center (AT&TC)

As per this policy, goal is to increase automotive production gradually by 2021 to:

Cars /Jeeps: 350,000

Light Commercial Vehicles (LCVs): 79,000

Trucks: 12,000

Buses: 2,200

Tractors: 88,000

Motorcycles: 2.5 Million

- ▶ To increase contribution to the Gross Domestic Product from 2.3 percent to 3.8 percent
- ▶ To increase contribution to manufacturing from 22 percent to 30 percent, and
- ▶ To increase direct and indirect employment from 2.4 million presently to 4 million.

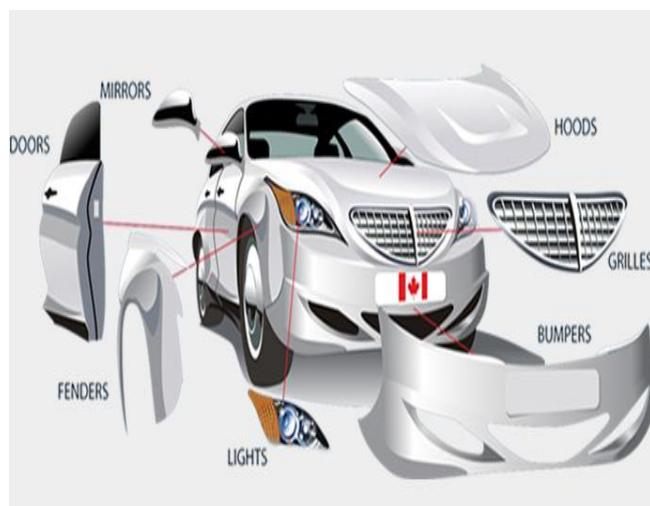
New policy is providing platform and encouraging the new entrants in the industry and opens horizons for investment in the auto body parts technology to cater for the demands of new investors. This will also enable auto body parts manufacturers to support the existing industries.

2.2. About Auto Parts Manufacturing Industry in Mandi Bahā-ud-Din

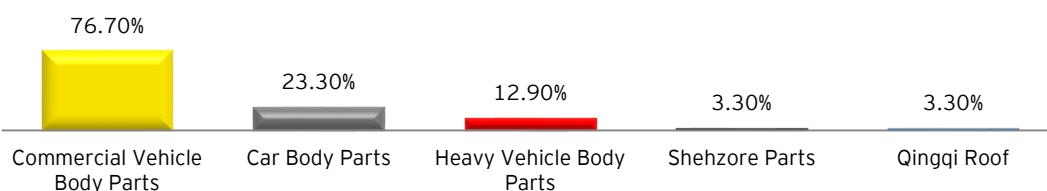
The first auto body part manufacturing unit was established in Mandi Bahā-ud-Din in 1980. The initial focus of auto body parts manufacturing units was limited to tractors, buses & truck parts. However, major advancement in the industry took place during the 90's when for the first time Suzuki commenced production in Pakistan, which encouraged the local industry to enter in auto body parts manufacturing.

Most of the auto body parts units in Mandi Bahā-ud-Din are family owned businesses and run by owners themselves. Owners of these units are less qualified and do not possess a formal technical education yet their knowledge about materials, machinery and products is noticeable. Cluster is highly decentralized and varied in terms of size and location. Small and unorganized units are located in congested areas of GPO office, Jail Road, while large and medium organized units are located in sugar mill road. Products of auto part cluster in Mandi-Bahā-ud-Din include bonnets, bumpers, door panels and other such body parts of cars, commercial vehicles, heavy vehicles, Shehzore and roof of Qingi.

As per our survey, industries are producing variety of Auto Body Parts. A percentage analysis of industries manufacturing different Auto Body parts is given as under:



Major products as per our Survey "Percentage of manufacturing units"

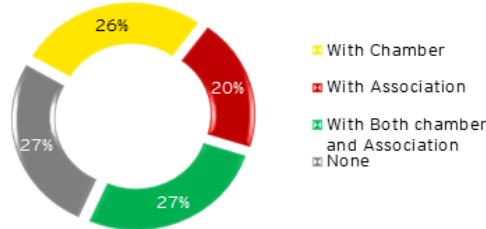


Affiliation with Chamber of Commerce & Industry and Pakistan Association of Automotive Parts Manufacturers

Graph below shows the percentage of affiliation with Chamber and Associations

The following institutes support auto parts industry:

- ▶ Pakistan Industrial Technical Assistance Centre, Lahore (PITAC)
- ▶ Pakistan Council of Scientific and Industrial Research, Lahore (PCSIR)
- ▶ Engineering Development Board, Islamabad (EDB)
- ▶ Automotive Testing and training Center (AT&TC)
- ▶ Pakistan Automotive Institute (PAI)



Further, following trade associations related to this sector are operating in Pakistan:

- ▶ Pakistan Association of Automotive Parts Manufacturers
- ▶ Pakistan Automotive Manufacturers Association

2.3. Geography of Auto Parts Manufacturing Cluster in Mandi-Baha-ud-Din

Mandi-Baha-ud-Din has 48 auto parts manufacturers. Products being manufactured in auto parts cluster of Mandi-Baha-ud-Din include bumpers, fenders, bonnets, door panels, grilles, chassis systems etc. Units are scattered in various areas of Mandi Baha-ud-Din:

- ▶ Mohallah Shafqat Abad - 22 units
- ▶ Phalia Road - 11 units
- ▶ Old Rasool Road - 4 units
- ▶ Sugar Mill Road - 4 units
- ▶ Scattered - 7units

7 scattered units are located on Mohallah kot Nawab Shah, mohallah Mughal Pura, Mohallah Mujahid Abad, Railway and Shaheedan Wali Road etc.

2.4. Annual Cluster Output

Annual cluster output is estimated to be more than 7,200 ton. Two large manufacturers produce more than 50% of the total production. Zulfiqar Auto Industry (Pvt.) Limited is the leading auto body parts manufacturer in Mandi Baha-ud-Din. They produce comparatively high quality standard parts. They also have a research and development department for design and development of parts and machines.

Design of the cluster is such that there are 10-12 large auto body parts manufacturers who are then supported by rest of the units. They also get support from Plastic manufacturers in Gujranwala and Forging and other services from Lahore.

2.5. Annual Raw Material Requirement & Supply

The raw material for these items includes Steel, aluminum, copper and their special alloys etc. The estimation of annual requirement of raw material is based on 5% wastage and rejection of raw material. Approximately raw material requirement of the industry at Mandi Baha-ud-Din is 650 ton. This include steel, aluminum and other alloys.

Most of the industries are using local raw material which is procured from Mandi Baha-ud-Din, Lahore, Gujranwala and Karachi while imported metal sheets from China and Iran are being used which are imported by traders and supplied to the manufacturers.

2.6. Cluster Statistics and Employment

Identified number of units with their estimated production capacity and number of employees in the auto parts cluster is provided in the table below:

| Statistics of Auto Parts Manufacturing Cluster Mandi Baha-ud-Din | |
|--|--|
| Number of Units | Total units are approximately 48 |
| Installed Capacity | Installed capacity of cluster is around 600 tons auto body parts per month |
| Capacity Utilized | Approximately 52% |
| Employment Generation | Approximately 600 (Directly and indirectly) |

2.7. Product Demand and Marketing

Local market remains the main target audience for auto parts cluster of Mandi Baha-ud-Din. Products produced in the cluster are being sold all over the Pakistan through trading and retailers who are majorly present in Mandi Baha-ud-Din.

- ▶ Almost 53.6% industries sell their products to customers & retailers within the district which are further distributed in other cities.
- ▶ 32.1% of the industries have markets within the province.
- ▶ 7.1% have major buyers in other provinces.
- ▶ While 7.2% industries sell all over Pakistan.



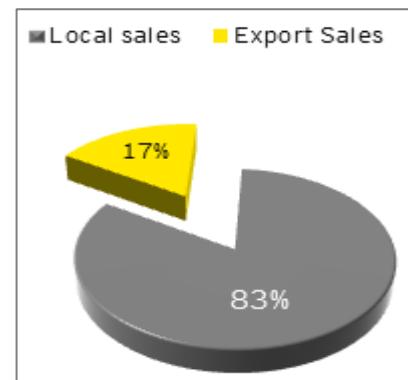
Publicity and marketing through brochures is practiced by 30% industries, social media is used by 3.3%, while combination of brochures and social media by 11.1%. Based on our survey, products are being sold as per following modes:

- ▶ 76.7% industries sell their products from factory
- ▶ 10% industries have their own sales points
- ▶ 3.3% through distributors.
- ▶ 4% sell directly from plant as well as through their own sales points
- ▶ 3.3% use all three methods i.e, from factory, through own sales points and through distributor.

Products being produced in the Mandi Baha-ud-Din are of medium quality and are cheap in price as compare to price of genuine part. Auto parts are imported from Taiwan, Thailand & China, which are good in quality. These imported products have demand in Pakistan but imports from these countries do not pose threat to Mandi Baha-ud-Din products due to high prices of imported goods.

More than 83% of the industries sell their products locally, while only 17% are involved in exports.

Currently products are being exported to Kenya, Uganda, Sharjah, Egypt, Bangladesh, Sudan, South Africa, Madagascar, Afghanistan and Iran. The major export markets are Africa and Afghanistan. Manufacturers of Mandi Baha-ud-Din face difficulties in accessing international market due to lack of education, lack in marketing techniques and financial difficulties.

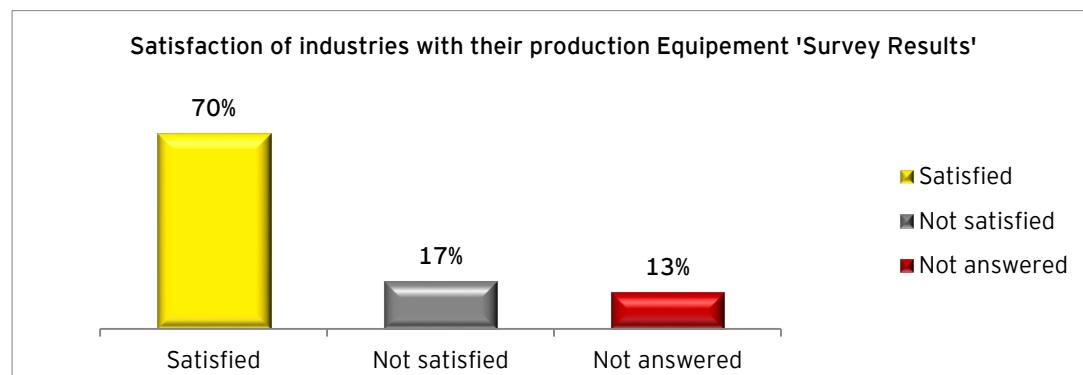


2.8. Plant & Machinery

In Mandi-Baha-ud-Din, industry is still working on conventional lines and they do not use basic CNC machines (sheet cut, pressing etc.) for die making.

Machinery installed in the industry has completed its useful life. Moreover, industry is unaware of the technological threat due to outdated machinery. This is the main reason why 70% of the industry is satisfied with their existing production facility.

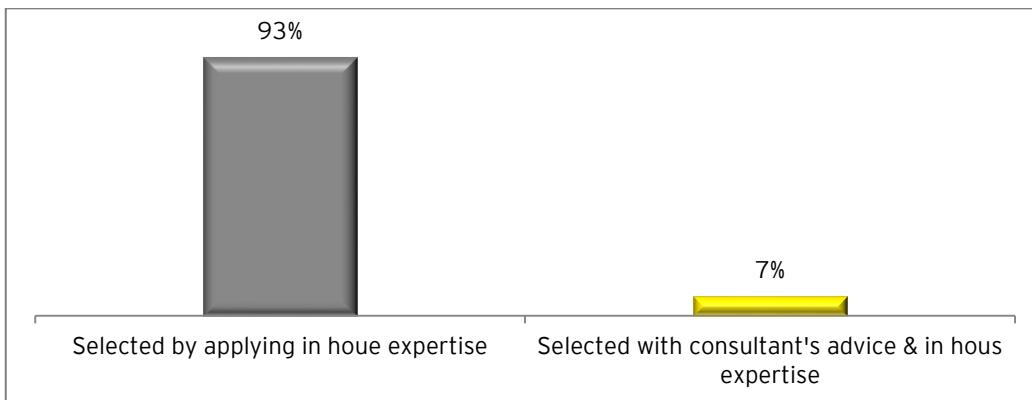
However, there is an urgent requirement to move the industry towards step by step automation to compete with rapidly changing environment of automotive industry in the world. Further, old machinery and conventional methods of production are energy inefficient. Quality, cost and quantity is compromised in the existing structure as explained in detail in the section 4.1 below.



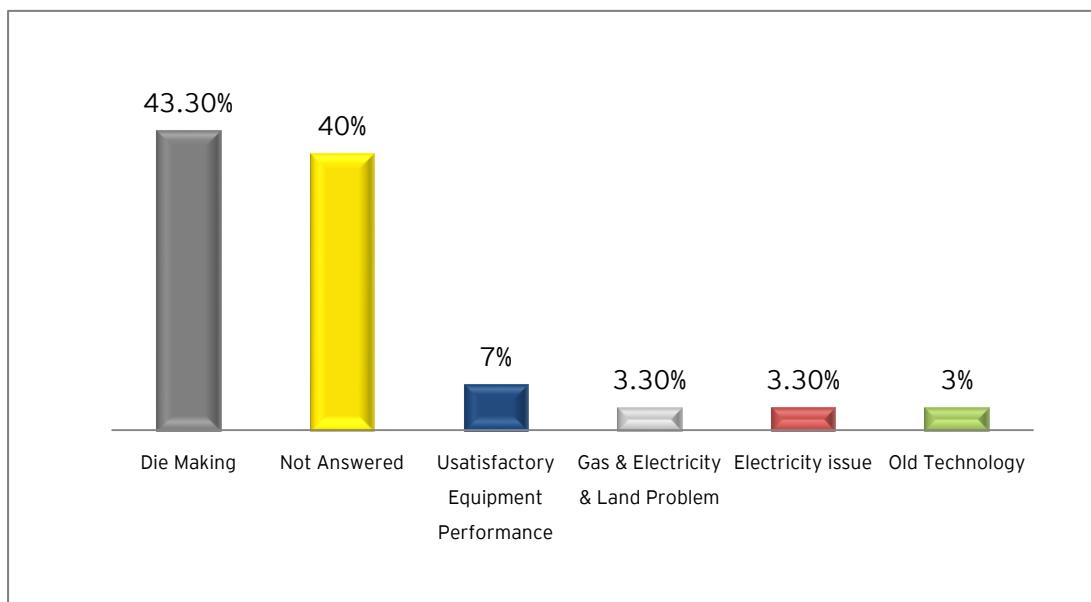
Major tools and machines used in the production process are:

- ▶ Power & Hydraulic Press
- ▶ Spot Machine
- ▶ Cutter
- ▶ Drill Machine
- ▶ Welding Machine
- ▶ Spray Gun

Based on our survey, 66.7% of units are using only local machinery for their production while 31% of units are using mix of imported and local machinery. Most of the imported machinery is second hand which is imported from different countries. An analysis about selection of production equipment is given below:



Issues faced by units with the manufacturing equipment are:



2.9. Local Auto Parts Manufacturing Cluster in Punjab

Lahore:

Lahore cluster caters for more than 50% of the requirement of car manufacturers and aftermarket. This is the second largest cluster after Karachi with 750 units operating with an investment of approx. Rs. 30 billion. Current capacity utilization of the cluster is 80-90%. Approximately 100 units are large and medium registered with assemblers/OEMs.

| Statistics of Auto Body Parts Cluster Lahore | |
|--|---|
| Number of Units | Total units are approximately 750 100 large and medium 200 Medium and Small 450 small sector |
| Employment Generated | About 220,000 employees |
| Total Investment | Approximately Rs. 30 billion |
| Capacity Utilization | 80% to 90% |

About 100 large and medium units are member of Pakistan Association of Automotive Parts & Accessories manufacturers. These are registered vendors of original equipment manufacturers and only work for them.

The production of auto parts in Lahore can be broadly categorized into following segments:

- ▶ Parts for Cars and Light Commercial Vehicles (LCVs)
- ▶ Parts for Two Wheelers and Three Wheelers
- ▶ Tractor Parts
- ▶ Parts for Trucks and Buses
- ▶ Parts for After Sales Market

An automobile consists of more than 20,000 components, with each performing a different function. The product ranges of above segments can be broadly classified into following five broad categories.

- ▶ Engine Parts
- ▶ Body Parts
- ▶ Trims
- ▶ Suspension Parts
- ▶ Electrical Parts

Body parts was the largest sub-segment, around 34% of units were involved in manufacturing of body parts for all segments. After that, suspension parts was the second largest as around 22% of units were involved in manufacturing suspension parts. The segment wise detail of manufacturing units was not available as many manufacturers were producing parts for multiple segments. Out of 32 OEMs/Assembling Plant only 9 were located in Lahore i.e. One Car Assembling Plant (Honda Atlas Cars Limited), 2 Tractor Assembling Plant and 6 Motorcycle Plants. The Lahore auto parts cluster was not only focusing the assembly plants and after markets of Lahore but was capitalizing on the overall market.

Cluster in Lahore is more developed than Mandi Baha-ud-Din. They supply both to the local industry and also export some parts to the international aftermarket and OEMs. Their customers also included some of the major German car manufacturers.

2.10. Local Auto Parts Manufacturing Cluster in Pakistan

Karachi:

Assembling plants of major car manufacturers like Pak Suzuki Motors, Indus Motor Company (Toyota) and Ghandhara Motors (Nissan) are situated in Karachi. Karachi auto parts cluster is the largest in the country with more than 50% units (more than 1,000) situated at Karachi (total 2,000 units in Pakistan).

Most of the units in Lahore have actually shifted from Karachi. Auto parts cluster at Karachi caters for the requirements of these OEMs. Units registered with OEMs are operating at the maximum capacity and are basically working as per the requirement of the OEMs.

Most of the auto parts for the aftermarket were largely manufactured in Pakistan for Toyota cars especially Toyota Corolla. This has led to the decline in the imports of these parts. Toyota had to conduct the study to assess the reason of decline of sale of parts in Pakistan aftermarket as sale of car remained constant.

As per our interview, we were informed that parts costing around Rs, 13,000/- on imports were sold by local manufacturers for Rs. 2,800 to the OEMs. As these were of the exact specification and fitting of original parts, OEMs started purchasing them locally.

At Karachi, with the installation of assembly plants of the leading manufacturers, there was a mushroom growth of the auto parts cluster as well. Some of them also export to the African and Middle East aftermarkets as well.

2.11. International Auto Parts Manufacturing Cluster

International clusters are described in two perspective here:

1. Clusters that started as a suppliers to manufacturers and converted into manufacturers.
2. Clusters that are supplying to the manufacturers.

In the first category, Korea is the example where with the support of Government, automotive industry cluster was developed. The automobile industry restructuring emphasized a restructuring of the parts industry. To understand the uplift of the cluster and bring it in the line leading car manufacturers, initiatives were taken in the following three stages:

- i. Production assembly and localization stage 1960s and 1970s:

For the first ten years (1960-70), infrastructure was constructed. At this stage, ban was placed on assembled automobiles to the country. This was the start of automotive industry basic plan development.

Then in the decade of 1970-80, there was heavy industrial development. Advancement of industrial structure to establish the basis for development of all Korean car. General large scale plants were constructed. This can be termed as production system preparation stage. Export strategy was developed and promoted.

- ii. Production and exporting stage in 1980s

This decade witnessed establishment of competitive advantage industry where export infrastructure was established. Production systems were established and Korea started exporting to US and international specialization of production was achieved. This was followed by mass export stage where components were given special emphasis.

- iii. Korea's own vehicle development stage 1990s

There was development of proprietary technology through research and development. By reinforcement of economic efficiency, mass production at competitive rate was possible. Then came the globalization of technological advancement stage where production basis were globalized.

Korea developed auto valleys (like auto valley in Ulsan and provided them with the support centers. Automotive Support Center with the investment of USD 62 million in 2005, Automobile Technology Center (USD 9.9 million) completed in March 2008, Component Storage Complex (USD 73 million) in 2007 and Modulation Complex (USD 58 million) in 2007. Although these centers are for high end product development but these are required to be catered while taking auto parts cluster initiative.

Approach for cluster development adopted by Korea is the role model for the developing countries. There are number of countries working on the similar approach and methodology in the world. Competition has become tough so Governments learn from the Korean model and bring in the interventions for the cluster growth.

China had worked on the similar model and then invested in the automobile industry. Al Haj FAW motors is a Chinese brand operating in Pakistan.

In the second category clusters that are supplying manufacturers, many countries manufactures the auto parts and sell them to the OEMs/assemblers. These are outsourced vendors and China, Mexico, Peru, India etc. have targeted this market.

India has most of the famous automobile manufacturing brands assembly plants. Their auto part cluster supply the local demand and also is part of the global supply chain of many major automobile manufacturers. It has 500 organized units and more than 10,000 unorganized sector. Labor cost is very low in India so there is a substantial growth in this sector in the recent decade.

The majority of India's car manufacturing industry is based around three clusters in the south, west and north. The southern cluster near Chennai is the biggest with 35% of the revenue share. The western hub near Maharashtra is 33% of the market.

The northern cluster is primarily Haryana with 32%. Chennai, is also referred to as the "Detroit of India" with the India operations of Ford, Hyundai, Renault and Nissan headquartered in the city and BMW having an assembly plant on the outskirts. Chennai accounts for 60% of the country's automotive exports.

Gurgaon and Manesar in Haryana form the northern cluster where the country's largest car manufacturer, Maruti Suzuki, is based.

The Chakan corridor near Pune, Maharashtra is the western cluster with companies like General Motors, Volkswagen, Skoda, Mahindra and Mahindra, Tata Motors, Mercedes Benz, Land Rover, Fiat and Force Motors having assembly plants in the area. Aurangabad with Audi, Skoda and Volkswagen also forms part of the western cluster.

Another emerging cluster is in the state of Gujarat with manufacturing facility of General Motors in Halol and further planned for Tata Nano at Sanand. Ford, Maruti Suzuki and Peugeot-Citroen plants are also set to come up in Gujarat.

Kolkatta with Hindustan Motors, Noida with Honda and Bangalore with Toyota are some of the other automotive manufacturing regions around the country

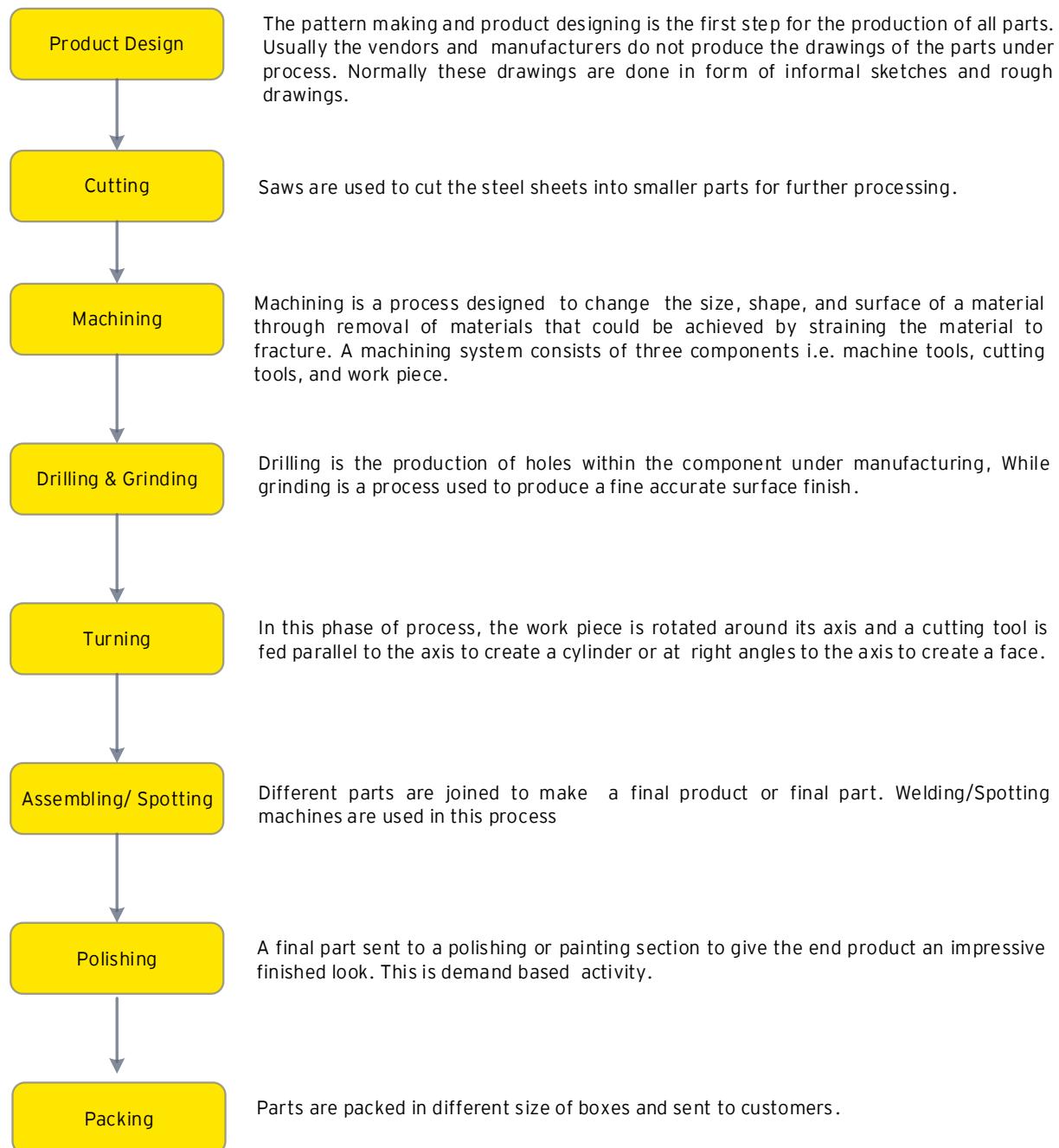
Currently Pakistan's automotive sector is not competitive with the Indian industry owing to the following reasons:

- ▶ India has a large Engineering Industrial base
- ▶ Raw materials are home based
- ▶ There is no Energy crisis
- ▶ There is no International Image problem
- ▶ Exports in Auto parts are well supported by the Government

Due to these reasons, GOP must ensure that respective automotive parts and goods are added and retained on the Negative and proposed Sensitive list with India until such time that our volumes of scale ensure comfortable positions for Pakistani auto parts / engineering SME units. Also GOP must ensure implementation to support auto parts makers with:

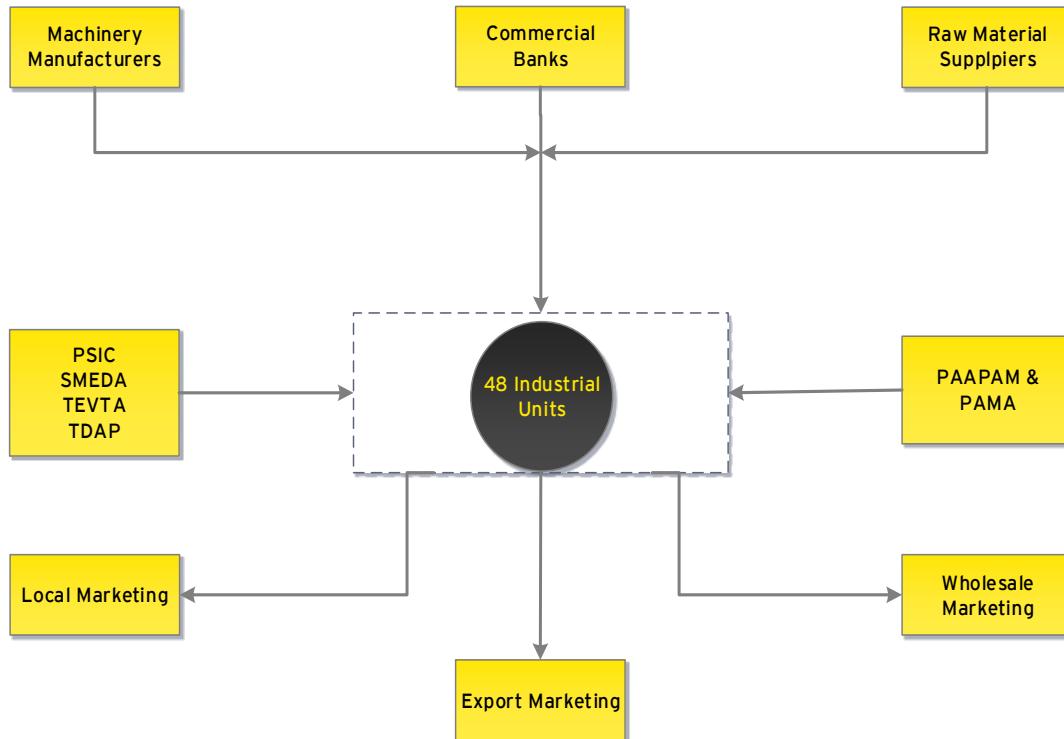
1. Productive Assets Investment schemes
2. Human Resource Development program
3. Technology Acquisition Scheme
4. Auto Industry Investment Policy
5. Auto Cluster Development

2.12. Process Flow Chart



2.13. Core & Other Cluster Players

The core players include raw material suppliers, equipment suppliers, traders, dealers, Associations, Chamber of Commerce & Industries, SMEDA, TEVTA, PSIC, TDAP and Commercial Banks.

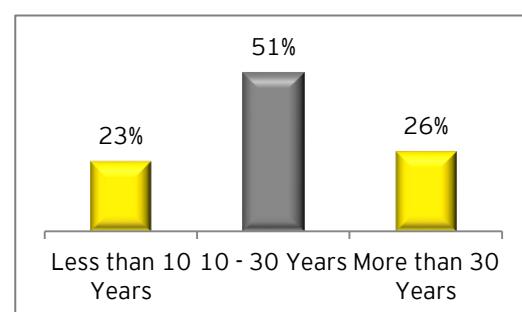
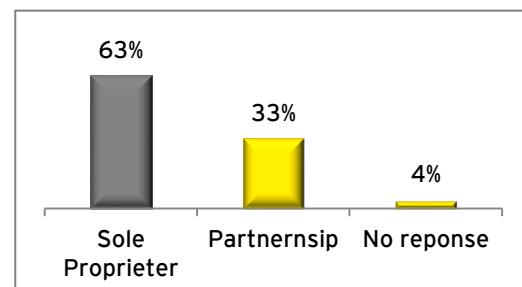


a) Manufacturers:

Most of the manufacturing operations are done within owner's factory premises however, some of the operations are outsourced to other manufacturers. As per our survey, 13.3% of the industries outsource their production activities.

Normally outsourcing is made in high peak season where some, large manufacturer outsource their small auto parts orders to other manufacturers.

Based upon our survey results, 63% of units are sole proprietor, 33% of units are partnership concerns, working through their production facilities while 4% of respondent didn't answer the question. 56.7% of unit's production facilities are rented while 43.3% of units are owned by factory owner.



b) Raw Material Suppliers:

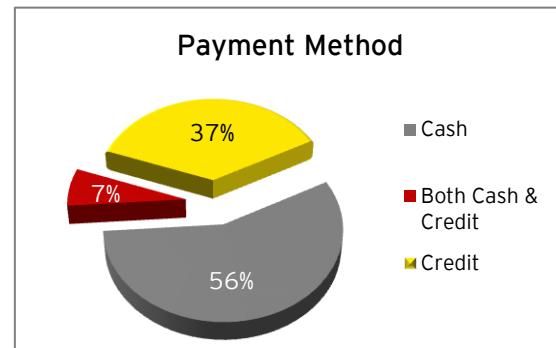
Raw material suppliers provide Steel sheets, Aluminum, Copper and their special alloys. Steel sheets are the major raw material used for auto parts manufacturing. Scrap is also used as a raw material which is available through dealers (Local/Imported). In past Pakistan Steel Mills was the major supplier of steel sheets. However, this mill is not functional. Ayesha Steel Mill and International Steels Limited in Karachi is filing the market demand.

Ayesha Steel Mills started production of industrial requirement steel sheets which has benefitted the industry in terms of savings in the sheet selection and testing time.

Most of units in cluster are using local raw material which is available in Gujranwala, Lahore and Karachi markets through local traders.

Some large manufacturer also uses imported sheet for producing high quality products. These sheets are imported from China and Iran through importers based in Lahore and Karachi.

Raw material from local market is purchased on cash basis and credit basis. Mix of mode of purchase is presented in the table.

**c) Machinery Suppliers:**

Most of the units in the cluster are using locally manufactured machinery. There are number of machinery suppliers present in Gujranwala, Faisalabad & Lahore. Many machines are prepared in house on direction of owners according to their requirements.

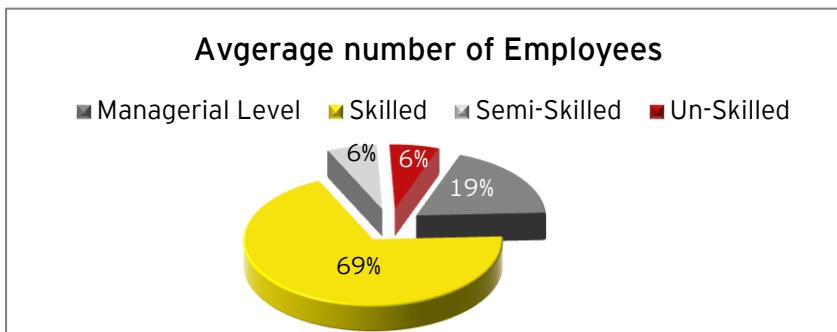
Machines are modified according to the requirements. New technology is costly for the manufacturers and credit facilities are not obtained by majority of the units for the purchase of equipment. Hence, machines developed are old and not as per the international standards.

d) Wholesalers/Dealers/Retailers:

Large number of wholesalers and dealers are present in Mandi Baha-ud-Din who are supply products to all over the country. Each manufacturing concern has its direct customer links present in different areas of the country.

e) Human Resource

The average number of permanent and daily wages worker in the auto parts industries is around 10. Further breakdown is provided in the bar chart below:



2.14. Institutional Linkage

a) Punjab Small Industries Corporation (PSIC):

Punjab Small Industries Corporation (PSIC) has been promoting the industrial culture in the province by providing various services to the industries all over the Punjab. PSIC has been providing different valuable services to the industry since 1972:

- ▶ Development of industries through sectorial analysis and Development of clusters
- ▶ Strengthening of clusters through survey and analysis and designing requisite interventions
- ▶ Provision of land to SSIs & creative and cultural industries in the clusters
- ▶ Subsidized credit to industries in industrial hubs and clusters
- ▶ Training in creative and cultural sector
- ▶ Marketing support to artisans
- ▶ Provision of feedback for HR development to concerned organizations on the basis of cluster analysis
- ▶ Provision of business plans and other advisory services
- ▶ Policy Advocacy

b) Small and Medium Enterprise Development Authority (SMEDA):

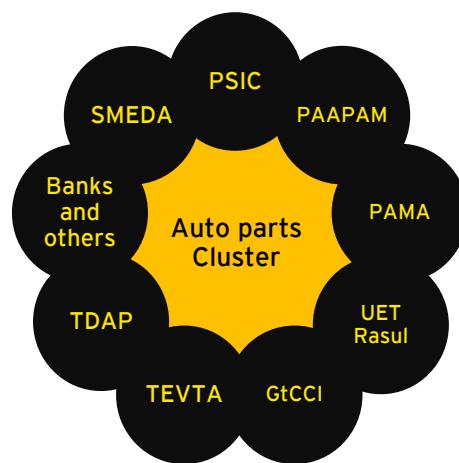
SMEDA was established in 1998 in order to face the challenges being faced by the Small and Medium Enterprises.

Small and Medium Enterprise Development Authority (SMEDA) is mainly providing following services to all of the industries:

- ▶ Training services
- ▶ Financial services
- ▶ Legal services
- ▶ Services of business development and policy planning.

c) Trade Development Authority of Pakistan (TDAP):

Trade Development Authority of Pakistan was set up in 2006 by the Government. TDAP is the successor organization to the Export Promotion Bureau (EPB) and is mandated to have a holistic view of global trade development rather than only the 'export promotion' perspective of its predecessor. TDAP participates in 60-80 international trade delegations annually and send 20-40 trade delegations abroad every year. TDAP is engaged in Pakistan engaged in promotion and boosting of country's exports by conducting fairs and exhibition and seminars/conferences and creating export facilitation committee for exporters.



TDAP's functions and mandates are as follows:

- ▶ To encourage and train new exporters.
- ▶ To develop a consistent, sustainable and result oriented, holistic export development plan, outlining vision, objectives, strategies and plan as approved by the Board.
- ▶ To encourage and promote research in trade and policy related studies that may facilitate in formulating an effective export policy and plans
- ▶ To provide advisory support to stakeholders.
- ▶ To liaise with trade bodies abroad.
- ▶ To plan, organize exhibitions, delegations to and from Pakistan.
- ▶ To plan and organize local, international and inter-provincial export promotional conferences, workshops, seminars.

d) TEVTA

Only Technical Education and Vocational Training Authority (TEVTA) is the major institute offering courses relevant to the local industry. TEVTA is managing different technical, commercial and vocational training institutes throughout the province. In Mandi Bahuddin, the important institutes of TEVTA include Government Technical College Rasool.

The Government College of Technology, Rasul was established in 1873. The College has an honor of training about 24,000 Technical Manpower for the Country. In April 2014 the chief minister of Punjab decided to make it University of Engineering and Technology Rasul. It is public-sector University launched on the initiative of the Government of Punjab and working under the umbrella of TEVTA. The courses offered by the institute include the following:

- ▶ B.Sc in Electrical
- ▶ Civil engineering
- ▶ Civil Technology
- ▶ B.Sc in Computer Science

TEVTA plays a vital role in providing technical courses relevant to the Auto Parts cluster, but no specified courses to the cluster are provided in Mandi Baha-ud-Din; whereas Auto Electrician and Auto Mechanic are provided in cities which include Lahore, Gujranwala, Kasur, Okara, D.G Khan etc.

e) Financial Institutions:

The financial institutions include number of commercial banks, leasing agencies that operate within the district of Mandi Baha-ud-Din. Most of these institutions have different credit schemes as per their policies.

f) Pakistan Association of Automotive Parts & Accessories Manufacturers (PAAPAM)

There was only one industry association in the cluster i.e. Pakistan Association of Automotive Parts & Accessories Manufacturers (PAAPAM) which was formed in 1988 to represent and to provide technical and management cooperation to its members.

PAAPAM, with its almost a decade old history, had attained a level of an indispensable and extremely effective link between the policy-making echelons at Government and the whole entity of its member firms. It used to take up the problems of the auto parts industry related to policy, fiscal, technical or commercial aspects on appropriate platforms and also

pursue them with the respective Government departments. The association also used to organize various seminars and exhibitions.

PAAPAM was a professionally managed association at national level and had members all-over the country. The Association used to operate on completely democratic lines with election of the Chairman, Vice Chairman and Managing Committee (10 members) for a full term of two years. PAAPAM had two office one in Karachi and other in Lahore. The Association had 210 members and this number was constantly increasing. In Lahore auto parts cluster the only 100 units in organized sector (i.e. principle firms) were the members of the PAAPAM. These units were well organized and registered vendors of top rank assemblers/OEMs.

There was a restriction that only registered vendors with top ranking OEMs could become the member of PAAPAM, so the representation of cluster in the association is very low. The large number of units in the cluster neither had any representation in any trade association nor had their own association at cluster level.

There was also another association called Pakistan Automotive Manufacturers Association (PAMA) for OEMs/assembling plant. PAMA had closed relations with the PAAPAM and had done a lot in developing the registered vendors.

g) Gujrat Chamber of Commerce and Industry (GtCCI):

Gujrat chamber of commerce & industry (GtCCI) has its sub office in Mandi Baha-ud-Din. GtCCI has total membership of more than 1200. GtCCI role includes provision of services as per following:

- ▶ Promoting and protecting the economic interest of the country is general and of those engaged in trade, commerce and industry
- ▶ Promoting or opposing legislative and other measures affecting trade, commerce and industry.
- ▶ Maintaining uniformity in rules, regulation and usage of trade.
- ▶ Forming a code or codes of practice to simplify and facilitate transaction of business.

2.15. Other Feedbacks from Survey

a) Policies and Regulations

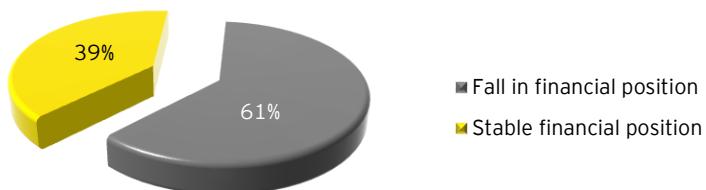
- 40% of the industries in auto parts manufacturing cluster are satisfied with the support provided by Government or Semi-government organizations especially SMEDA, PSIC, and TDAP. 23.3% are not satisfied, while 36.7% did not comment. Respondents recommended that PSIC should establish small industrial estate in Mandi Baha-ud-Din. The level of satisfaction pertaining to various government laws is provided below:



53.3% of industries have highlighted their concerns pertaining to government policies and laws through Chamber of Commerce and Industries. More than 46% industries are satisfied by the actions taken by the Chamber on the highlighted concerns, while 6.7% are not satisfied.

b) Financial Position

- Change in financial position of entrepreneur of auto parts Cluster in Mandi Baha-ud-Din over last three years are described below:



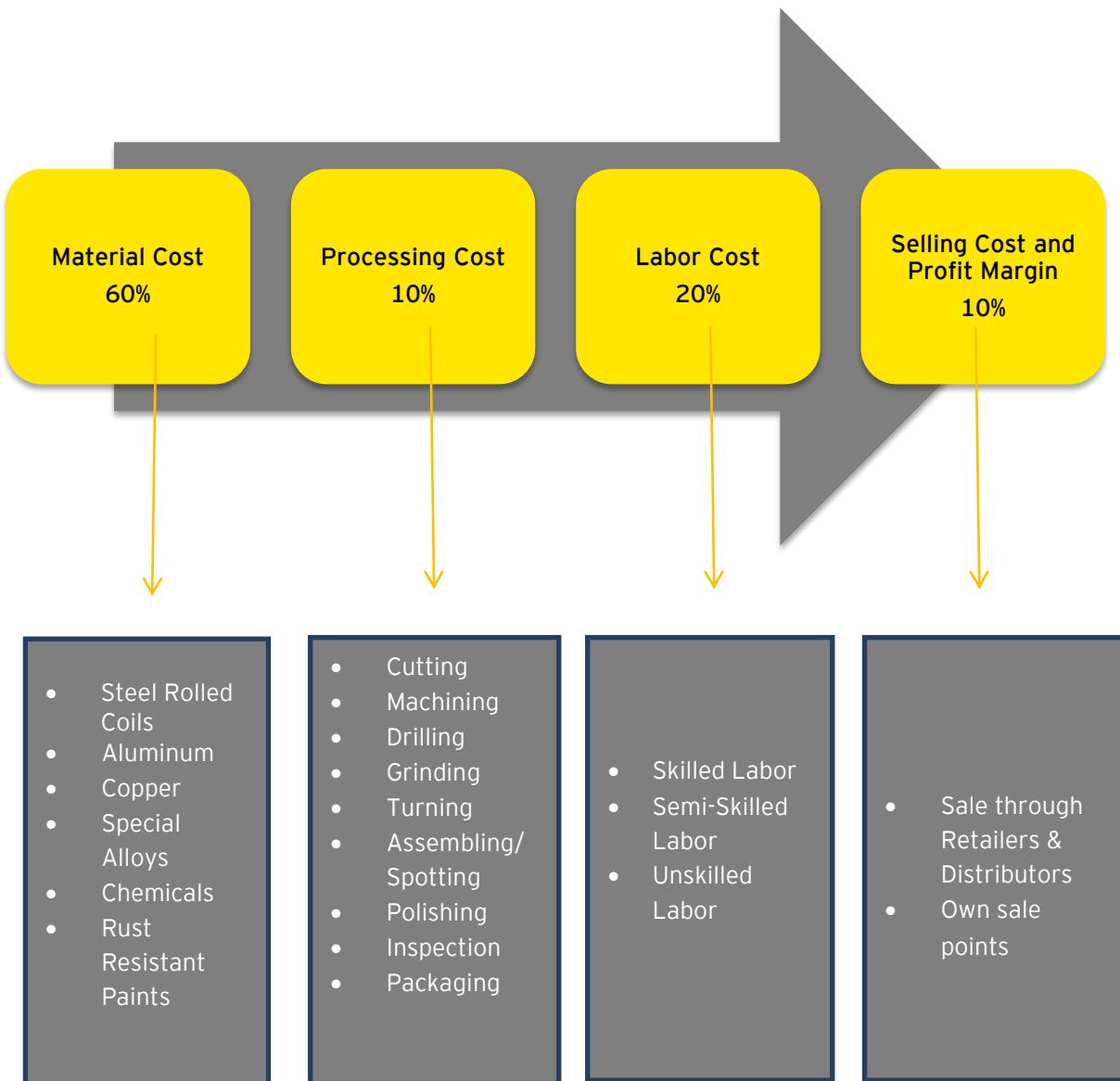
- Satisfaction level of the cluster with their financial position.

| Satisfaction Level | Percentage of industries |
|--------------------|--------------------------|
| Satisfied | 73.3% |
| Not satisfied | 26.7% |

- Other suggestions & comments provided by the industries are provided below, along with the frequency of each suggestion/comment:

| Sr. No. | Suggestions | Frequency |
|---------|--|-----------|
| 1 | Training centers required | 13 |
| 2 | Latest equipment required | 13 |
| 3 | Industrial Estate Required | 11 |
| 4 | Electricity Issue | 3 |
| 5 | Social security institutes should cooperate with units in cluster and with our workers | 1 |
| 6 | Government should provide interest free loan | 1 |
| | Total | 42 |

3. Value Chain Diagnosis



3.1. Raw Material:

Raw material used in the auto parts are steel, aluminum, copper and their special alloys etc. Raw material represents 60% of total cost of the product. Major raw material used is Steel which is available in local market. Major markets for steel sheets in Pakistan are Gujranwala, Lahore and Karachi. Few of the units are also using imported sheets from China and Iran. Imported sheets are being procured through suppliers present in Lahore, Gujranwala and Gujrat. Quality of the locally produced raw material is average and inconsistent. Further, no practice of testing of raw material exists.

3.2. Processing

Machining process represents 10% of the total cost of the auto part. Majority of the units in cluster has in-house machining facility and only some of the manufacturers outsource their processes. After procurement of raw material, first process is product designing followed by hydraulic press and then cutting & machining processes, machining system consists of three components: Machine tools, cutting tools and work piece. Next step is spotting. At this stage metal sheets are welded. After drilling and grinding process the product is assembled to make a final product. After the assembling, the product is set for polishing/paint. Major concern in the machining process is use of out dated technology and techniques which are more time consuming and less efficient in productivity.

3.3. Labor:

Labor cost constitutes 20% of the total cost of the auto parts products. Skilled labor is required for manufacturing of auto part however currently cluster is supported by semi-skilled and unskilled labor. Semi-skilled and unskilled labor is easily available in Mandi Bahā-ud-Din. Entrepreneur face difficulty in finding skilled labor due to unavailability of training facilities. Cluster is experiencing issues in retaining existing labor. New generation is also not attracted towards this industry due to unsatisfactory working environment. This situation increases the bargaining power of existing labor and they are demanding higher wages that ultimately affects the cost of auto parts.

3.4. Sales and Marketing

Manufacturer's margin on sale price of the auto parts products which includes selling costs represent 10% of the total cost of the product. This varies significantly from product to product but to remain competitive in the market, margins are intentionally kept thin.

During the survey, it was informed that the margins are kept low so that customer prefer installment of the new part rather than going for the repair.

Some of the units are marketing their products through broachers whereas most of the units are not marketing their products but only using their contacts with dealers to sell their products. Auto body parts of Mandi Bahā-ud-Din are being sold all over the country. Most of the units are selling their products through their own sale points and through dealers and distributors.

Further, they have orders from African countries (like Sudan), Middle East and various aftermarkets. Most of the units are produced of Toyota vehicles especially Hiace and Hilux variants.

4. Understanding Effects of China-Pakistan Economic Corridor (CPEC) on Local Industry

Several projects under China-Pakistan Economic Corridor are in process currently. The corridor has long lasting effects on the economic development of Pakistan, especially industrial sector of Pakistan. To provide readers a holistic view about the opportunities and challenges emanating from CPEC for industrial sector, this section has been included in this study.

Brief Introduction

The China-Pakistan Economic Corridor (CPEC) is an ongoing development megaproject, initiated in 2013, which aims to connect Gwadar Port in south-western Pakistan to China's north-western autonomous region of Xinjiang, via a network of highways, railways and pipelines to transport oil and gas. Further, The plan is involved in laying the foundation for regional cooperation, improving economic growth, development of Gwadar port, investing in transporting, mining, telecommunication, industrial parks, offering trade diversifications and creating political flexibility. The plan has a vision with world-changing implications, an explanatory plan that would unite much of Asia, Europe, Africa, Oceania and the Middle East much more closely together through a patchwork of diplomacy, new infrastructure and free trade zones.

Investments and Projects

In persistence of CPEC, Pakistan and China signed an agreement to commence work on the estimated \$45.6 billion agreement, highest foreign direct investment after 9/11. Out of \$45.6 billion, \$33.8 billion and \$11.8 billion were embarked for energy and infrastructure sector respectively. It is also estimated that \$11.6bn will be invested in Khyber Pakhtunkhwa, \$11.5bn in Sindh, \$7.1bn in Baluchistan and \$6.9bn in Punjab, out of total \$33.8 billion embarked for energy sector.



establishment of industrial zone and availability of skilled labor provide growing and investment opportunity to local and international investors and also attract foreign direct investments. It also provides opportunity to local industry especially SMEs' to get access to international markets for their products or to procure raw material at low rates. The above stated facts also help the industry especially SMEs' to reduce the cost of production resulting in export potential at competitive prices.

Opportunities and Impacts

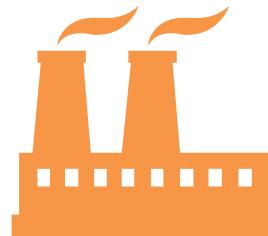
As a large portion of CPEC is reserved for power projects to reduce demand-supply gap in energy-starved Pakistan. Further as part of CPEC, industrial estate/special economic zone fortified with all basic infrastructure facilities i.e. electricity, gas, roads, sewerage system, emergency services etc. is developed in each province of Pakistan. China has also plan to shift technological and scientific knowledge to Pakistan by establishing technical institutes in Pakistan resulting in supply of trained and skilled labor.

The supply of uninterrupted energy, easy excess to markets, infrastructural development, and

The investment is believed to augment the growth and income levels, which should help improve feasibility of expansions, expand margins and accelerate earnings growth. Consumers stocks would also benefit from the higher demand and income levels.

CPEC results in employment, revenue generation and technological advancement that ultimately lead to development of local industry especially for SMEs. It is estimated that proposed investment portfolio will add 2 to 2.5% in country's economic development growth.

Despite the pros of the CPEC, we also need to examine the possible long run challenges on local industrial sector, especially small and medium sized manufacturers , due to increase in global competition. The competition will primarily emanate from introduction of cheap Chinese products in local market and gulf countries where lower transportation cost will be an added competitive advantage to China. Smuggling of Chinese products will also be encouraged by said project. It is estimated that imports from china will be increased by 33% on completion of CPEC. Steel, cement, agriculture, electronic appliances and fertilizer industry, especially SME's, will be most affected industry due to increase in import of Chinese products.



CPEC - The Way Forward for Industrial Sector

Government, in alliance with all stakeholders including political and business community , universities and local people, should develop a strategy after conducting an in depth homework to capitalize all benefits associated with CPEC and to overcome threats arising from Chinese products, as earlier discussed.

Government institutions can help prepare industries for CPEC. In this regard, areas of attentions are briefly discussed hereunder:

- ▶ Provide guidance to industries about the possible challenges to industrial sector
- ▶ Provide assistance to industry for improving advancement of technology
- ▶ Provide technical and financial support to SMEs' to access capital market
- ▶ Create strong linkages between academia for research and global competitiveness as well as on collaborations with both domestic and international markets.
- ▶ Provide financial support to ensure sustainability of SME's
- ▶ Initiation of government programs to encourage private-sector collaborations
- ▶ Provide business development services to SMEs' to manage their growth
- ▶ Issue prudential regulations and guidelines for the creation of venture capital and private equity fund.
- ▶ Take steps to reduce reliance on imports.
- ▶ Provides ground for academia and opinion makers to share their concerns, doubts, and analysis, useful to achieve ultimate objectives of project.

Thus CPEC is indeed a great 'game changer' which should complete its short term goals but for long-term trade goals, Pakistan shall really have to exploit opportunities from this corridor at full potential and also save interests of existing industries through their capacity building.

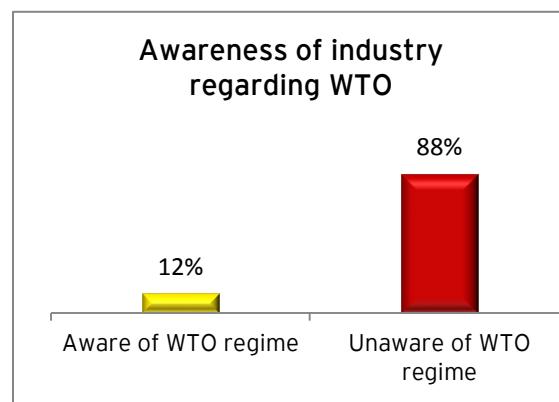
5. The World Trade Organization

The World Trade Organization (WTO) intends to supervise and liberalize international trade. WTO was established on January 1, 1995 under the Marrakech Agreement, replacing the General Agreement on Tariffs and Trade (GATT). The basic objective of WTO is to create a liberal and open trading system for member countries where these countries can trade with each other without any trade barriers. It tries to provide market access to countries for their products and services and promotes friendly investment policies by eliminating trade distortions between countries, trimming down tariff and non-tariff barriers, removing quotas and abolishing subsidies in a phased manner.

It also has rules that protect local businesses and industry from foreign goods and services using unfair practices like dumping or transfer pricing mechanisms. WTO has rules to address quality issues, labor standards, environmental aspects, government regulation, and legal frameworks.

Currently 162 countries are member of WTO and it oversees 60 agreements related to trade liberalization. Few of the most discussed agreements are "Agreement on Agriculture (AOA), General Agreement on Trade in Service (GATS), Agreements on Trade related Aspects of Intellectual Property Rights, Agreement on the Application of Sanitary and Phytosanitary Measures"

We have carried out 327 surveys in 12 clusters of Gujranwala, Wazirabad, Gujrat and Mandi Baha-ud-din and during survey it was revealed that only 12% of industry was aware of the WTO regime.



Impacts of WTO agreements on industry of Pakistan are described below.

- ▶ WTO liberalizes international trade by removing tariff and non-tariff trade barriers, Pakistani industry will have access to major markets of developed countries and products of Pakistani industry can be competitive due to lower trade barriers and duties in those markets.
- ▶ Government will not be able to protect local industry by imposing higher tariffs to the imported goods.
- ▶ Industry can achieve economies of scale through increased production as industry will have access to additional international markets.
- ▶ Local industry will be able to import quality raw material from developed countries at cheaper rates which will result in decreased production costs and enhance quality.
- ▶ Trade liberalization encourages competition as international products with better quality will have access to Pakistani markets with lower trade barriers and tariffs. However, increased competition may threaten the survival of local manufacturers.

WTO agreements will have both positive and negative impact on the local industry. Industries should be provided awareness about WTO regime and how to prepare for upcoming challenges.

6. Detailed Issues, Recommendations and Action Plan

The issues and impediments have been identified through the analysis of secondary and primary data collected through the meetings with the stakeholders and industrial surveys in the cluster, and are provided in the subsequent section. Reader are encourage to go through all issues and recommendations to comprehend the relationship between all issues and recommendations and thus to have a holistic view of the issues in hand.

Following cluster issues and impediments were observed during the discussion with entrepreneurs in the cluster.

6.1. Outdated Technology and techniques:

a) Issues

Technology is the major challenge faced by auto body parts industry in Pakistan. Vehicles are using new technology and advancement is very sharp. Technological requirements can be seen in two perspectives:

1. Technology to compete with the world leaders and to supply complete range of parts to OEMs
2. Technology to serve the aftermarket

First option requires heavy investment with skills development. It will require robust measures and collaboration with the leading car manufacturers. As seen in the Korean action plan, this was the second stage. After development in the basic infrastructure of ten years, then they entered in this market in the next ten years.

Currently technology available is not sufficient and precise to even cater for the mass production for the aftermarket. So there is a sizeable room for improvement in this segment. We have identified the following requirements of Mandi Baha-ud-Din cluster during our survey:

1. Availability of CNC machines and center for the development of dies being the very basic part in the production process
2. Availability of Pneumatic Hydraulic Press machines
3. Availability of Phosphate Conversion Coating plant and degreasing of the metal sheets to enhance its life

Dies: In auto part industry die making (Metal block that is used for forming materials like sheet metal) is the most critical and time consuming activity. Currently manual machines and conventional techniques may take 2-3 months in preparing a die. No CNC machines are being used in preparation of die which cause low quality production of auto parts.

Gujranwala Tools, Dies and Moulds Centre has the capability to prepare dies on state of the art CNC machines. But it was identified that the manufacturing cost from Gujranwala Center is even more than the imported dies. This has resulted in the loss of confidence of the Auto body Parts units operating at Mandi Baha-ud-Din.

Pneumatic Hydraulic Press: In this press, two step stroke system provides high precision. The large gauge (in short and metric tons) eases the control of the pressure and the sturdy

steel frame guarantee high durability. It works faster than the conventional hydraulic press and provides more precise results.

Phosphate Conversion Coating Plant: This plant has two steps. First body part is dipped into anti rust pool where it is degreased and rust treated. Then it is dipped into the phosphate treatment plant where phosphate removes all the dust from the steel and also coat it with phosphate. Then it is baked in the Owen. This improves the life of the product and also provides better paint finish on the steel.

Our survey results also indicates that 70% of units are facing issues related to their current machinery. 13 out of 30 industries requires new technology for the growth of cluster.

Further, it is pertinent to mention here that there is no trend to import the new machinery or any plans for the up gradation in the cluster. Units identify their requirement and design most of the installed machinery themselves. This results in low quality of machinery and low production quantity. They are not aware of the impacts of the mass production and quality issues.

There are no material testing machines neither any product tests are carried out. Further, cluster does not believe in the conventional financing arrangement for the purchase of equipment or otherwise.

b) Recommendations

Awareness sessions needs to be conducted to facilitate the cluster to understand the new techniques available and their potential savings to the units. Benefits that can be achieved through mass production and economies of scale.

In the Industrial Estate, government needs to install the above mentioned machines as common facilities for the cluster. Government can charge each unit according to each export shipment. There is a huge potential of auto body parts manufactured at Mandi Bahā-ud-Din to be exported in the aftermarket. Rates are very competitive and with the installation and provision of the above mentioned facilities, quality can be achieved.

Further, it is important that techno-economic studies shall be carried out by PSIC through a third party to examine the impact of refurbishment of technology especially in context of product diversification, less wastage of material, time efficiency, etc. The results of such studies should be discussed and shared with all the stakeholders for their acceptability and applicability in the remaining units in the cluster.

For keeping the industries upgraded with latest available technologies, Trade Development Authority Pakistan (TDAP) should make arrangements for the participation of the main cluster actors in the international exhibitions at a subsidized cost. Further international linkages can also be developed through this platform.

6.2. Issue related to availability of land

a) Issues

Most of the manufacturers of auto parts cluster are scattered in residential areas of Mandi Baha-ud-Din. Availability of the space is one the major issue of the cluster as they are unable to expand their premises because there are no vacant plots available attached to current locations. Due to narrow streets it is very hard for manufacturers to transport raw material and finished goods to and from manufacturing units and to resolve this issue manufacturers have to involve extra resources which results in extra costs being incurred.

As per survey, 11 out of 30 respondents highlighted Industrial estate as the major need of the cluster.

b) Recommendations

Small industrial estate for Mandi Baha-ud-Din is proposed since 2012 but so far no practical on field work has started. PSIC should ensure efforts to speed up construction of industrial estate. A study should be conducted by PSIC to understand the land requirements of the cluster to allocate the required space. For the acquisition of plots easy installment should be offered to ensure that all the manufacturers including small industries can benefit from the industrial estate.

6.3. Issues pertaining to labor and their training

a) Issues

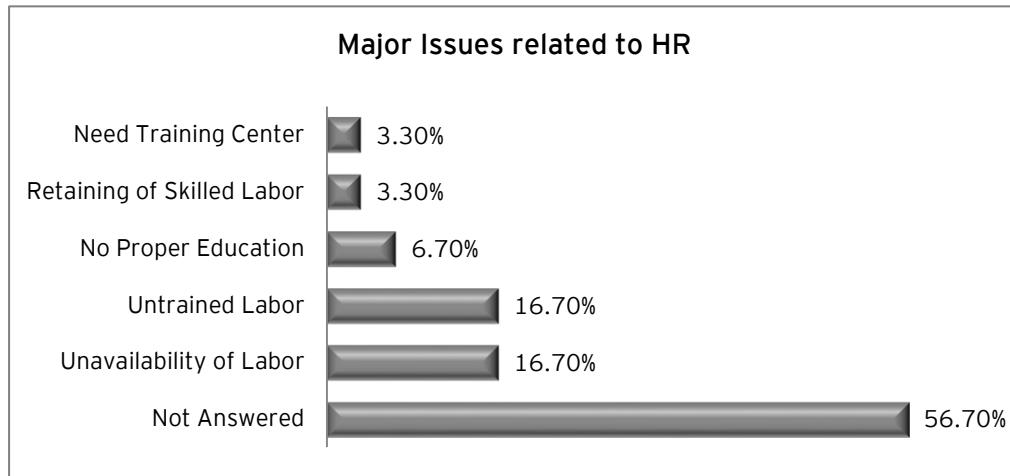
Workforce is available in abundance at Mandi Baha-ud-Din but they are lacking proper technical knowledge and new labor is not attracted towards auto parts industry. As per the surveys, 30% industries informed that workforce is hard to find. One of the reason behind poor technical knowledge is that most of the labor is trained on job as there are no courses related to auto parts being offered by the institutes operating in cluster. According to 63.3% respondents, there are no functional training institutes. While as per 23.3 % industries courses offered by institutes are not relevant. Only 6.7% of the industries are satisfied with training institutes, while 56.7% industries are not satisfied with their role.

Lack of facilities for the employees including low remuneration, environment, health, food, transport and other related facilities, have been main contributory factors for decrease in supply of labor.

Despite the current un-employment problem, new employees are not interested in this industry due to, increasing focus of public towards white collar jobs, and lack of facilities.

The major issues pertaining to human resource are as under:

They have good practical experience of Press, Forging, die making but limited knowledge of latest Tool & Alloy Steel or methods of their heat treatment.

**b) Recommendations**

In the new emerging auto parts clusters in the world, it is observed that the engineers and skilled work force is obtained by the Government from the OEMs and are sent to the common facilities center to develop the labor as well the production process.

Major issue faced by the industry is lack of training facilities and institutes offer very limited courses. It is recommended that TEVTA along with UET Rasul and other institutions takes programs tailored for the development of skills in this field. This will be further linked with the advancement of technology. Institutions can provide basic education but technological skill set development is possible at common facilitation center.

Both industry and the institutes should work in collaboration. If job placements are guaranteed at reasonable wages for the trained workforce then new entrants can be interested in learning the skill.

Employees working conditions can be improved with the advent of new technology. Growth in the cluster can motivate the industrialists to invest in the health and safety measures and provision of facilities for the workforce.

Further, export markets require proper ratings of the industry in terms of health, safety and overall working conditions. Industry needs to be informed about these requirements through workshops. This will help them to be part of the global value chains as well as a vendor to OEMs. For short term, health, safety, environment and transportation facilities should be improved.

6.4. Access to International markets

a) Issues

Only 16% manufacturers are directly exporting their products to South Africa, Sudan, Kenya, Uganda, Sharajha, Egypt, Bangladesh, Madagascar Afghanistan and Iran. Major obstacle in exporting is their access to international markets. Currently there is no marketing channel being utilized and exhibitions are not being arranged to explore international markets. Exports are only being made if customer approaches manufacturer.

b) Recommendations

Trainings and workshops are required at cluster level to train the manufacturers regarding access to international markets and exhibitions should be arranged by Gujrat Chamber of Commerce & Industries and foreign delegates should be invited to highlight products of auto parts sector of Mandi Baha-ud-Din.

6.5. Financing Facilities

a) Issues

Finance is the major impediment in expansion of manufacturing units. Due to religious views on interest, manufacturers are not willing to avail the financing facilities of conventional banking despite the financial needs. As per survey, 96.7% industries have not taken any loans from the conventional banking. 70% of the respondents understand the loaning policies and all are not satisfied with these policies. Finance availability is one of the major reason behind the technology and machinery gap between local and international standards.

b) Recommendations

It is proposed that industries should be provided with guidance on Islamic mode of financing and grant of financing facilities with easier requirement of collaterals. Moreover, Islamic financing programs should be introduced to facilitate upgrading of machinery with easy conditions as to paybacks and collaterals requirements.

6.6. Unawareness of Quality Standards

a) Issues

No standard is being followed by the auto parts cluster. There are no testing facilities to ascertain the quality of the raw material and final products. Currently physical appearance is the only parameters used in the cluster to decide the quality of raw material and product and they are reluctant to use any technical facility for testing due to unawareness of quality standards and their benefits. Only 3.3% of the units in the cluster has some accreditation.

They are unaware that their competitiveness depends both locally and internationally on the adoption and adherence to these standards

There is no ISO certification in any of the units surveyed. 43.3% of the units in the cluster are not willing to get ISO certification.

b) Recommendations

Seminars and workshops should be conducted to educate the industry and help them understand the benefits of international standards and accreditation needs. ISO certified companies must be provided benefits and incentives to encourage other companies to obtain certifications.

Further, requirements of OEMs across the globe on the minimum standards must be provided through workshops.

6.7. Common Facilitation Center (CFC)

a) Issues

There is no common facilitation center for the cluster at Mandi Baha-ud-Din. However, there is a strong requirement of one to support their activities. As discussed earlier, one of the major requirement is to prepare dies for the cluster. There is a huge export potential in the cluster to export parts at very cheap rate and to tap the aftermarket of many vehicles. But this requires dies to be prepared economically and within short span of time. Similarly quality improvement and precision is also required in the products. This center can facilitate the industry in achieving these goals and eventually become the registered vendors to OEMs.

b) Recommendations

Common Facilitation Center (CFC) needs to be developed by Punjab Small Industries Corporation (PSIC) to create linkages between the clusters and tap the unexplored potential market through technological advancement.

Terms of Reference (TORs) for the center can be agreed and funding can be obtained for development and operation of the center. Following activities can be performed by the CFC:

- ▶ Hub for the technical facilities such as dies manufacturing, pneumatic hydraulic press and phosphate treatment services
- ▶ Contact point and facilitation center for industry with training institutions, financial institutions and other educational institutions.
- ▶ Information and research center for new technology and market trends including product development and design.
- ▶ Identification of the prospective areas to be part of the global value chain. Globalization is optimizing value chains at global level resulting in lesser opportunities at the local and national levels. With lower cost advantage in term of labor and overheads, auto parts cluster has potential if technology is upgraded.
- ▶ Testing facilities at the door step of the cluster.

6.8. No Research and Development

a) Issues

There is no research and development hence no innovation in the products. Most of the products are re-engineered and dies and equipment required is also developed in-house. This has resulted in the following:

- ▶ No product diversification.
- ▶ Lack of knowledge of new technology and techniques.
- ▶ Lack of market research for the product demand.

Apart from the issues mentioned above, following impacts the ability of the cluster to compete globally:

- ▶ Lack of proper packaging and transport facilities
- ▶ Not defined departmental structures
- ▶ No proper record maintenance
- ▶ Lack of coordination among the cluster players

b) Recommendations

As already identified, CFC must be equipped to cater for all these requirements of the cluster as a one stop solution. PSIC needs to take this initiative for the robust growth of the cluster.

There is a potential to target the aftermarkets in Africa, Middle East and many other countries.

7. SWOT ANALYSIS

Based on the data collected through the discussion with the Association, meeting with the stakeholders, industrial surveys, and using the SWOT tool, an analysis of the cluster has been carried out. The result of the SWOT analysis based on internal and external factors is provided below:

| Strengths | Opportunities |
|---|--|
| <ul style="list-style-type: none">▶ Raw material is locally available through local supplier▶ High growth and demand in the market▶ On job training and skill development▶ Availability of low cost human resource | <ul style="list-style-type: none">▶ Advent of new technology and equipment▶ Potential for high market growth due to wide gap in population to vehicle ratio.▶ Participation in the trade fairs and exhibitions to bring in new technology▶ Quality testing labs and standardization▶ Development of common facilities center▶ Development of Research and development center▶ Potential of linkage with the global value chain▶ Collective effort of the key cluster players to build synergy in the cluster▶ Domestic replacement parts market, if smuggling curtailed.▶ Global spare parts market for discontinued vehicles.▶ Emerging markets of Afghanistan, Nepal, Bangladesh, Iraq, Sir Lanka▶ Great potential all over the world for tractors and trailers parts market. |

| Weaknesses | Threats |
|--|---|
| <ul style="list-style-type: none"> ▶ Quality of the end product is very low and non-competitive with the international market. ▶ Electricity breakdown ▶ No long term vision or policy ▶ High cost of utilities ▶ Lack of information dissemination (Technical know-how, information on standards, processing techniques, design criteria) ▶ Low quality raw material ▶ Plant are energy inefficient ▶ Sales and marketing strategy is not developed ▶ Lack of skilled manpower for modern machinery. ▶ Lack of interest of new labor in this industry due to working conditions ▶ Sub-standard employee facilities (transport, health and safety etc.) ▶ No cluster specific training institutes in the area ▶ No research and development related to products ▶ Lack of knowledge of the new technology and techniques in the cluster ▶ Education level of the management and labor is ordinary. ▶ Lack of awareness of standards and ISO certification ▶ Lack of information about the potential of the export markets. ▶ Lack of tolling and die manufacturing facilities ▶ Lack of understanding of taxation issues. ▶ Lack of well-equipped facilities for product testing and research & development. | <ul style="list-style-type: none"> ▶ Imports of used auto parts with higher quality and cheaper rates. ▶ Fluctuations in the prices of raw material ▶ Low literacy rate ▶ Lack of interest of new work force in this industry due to working conditions ▶ Global free trade ▶ Increased taxation in the industry ▶ New laws and regulations being imposed resulting in the increased cost to the industry ▶ No trade mark registrations ▶ Continuous depreciation of rupee against top world currencies. ▶ Poor image of the country. |

8. Cluster Vision

"The auto parts cluster will become a leading auto parts producer in the domestic market and will strengthen its presence in international market by becoming a part of Global supply chain through improvement in product quality, introduction of better technology, international standard working environment and innovative marketing strategies"

8.1. Strategy

The long term roadmap consists mainly of three stages: (1) laying the foundation, 2) empowerment, and (3) Internationalization.

Several strategies to implement this model for Mandi Baha-ud-Din are as follows:

- (1) **An industrial cluster foundation:** The first action is to lay the industrial cluster foundation which is a configuration of hardware. There needs to be enabling of integration by building a parts complex which would make it possible to have medium-sized parts suppliers move in by building modulation complexes
- (2) **The empowerment of technology development:** In the long run, the competitiveness of Mandi Baha-ud-Din's auto parts industry will be possible through R&D. There needs to be an effort in R&D for the establishment of research facilities for auto parts. A good practice is showcased in the Auto Parts Research Center in Korea and related facilities for making domestic auto parts.
- (3) **Knowledge transfer:** Technology comes from people. The fastest way to develop human resources is to invite expert to establish a field of study in a university related to automotive to develop the future workforce that will lead the automotive industry
- (4) **The establishment of business support systems:** This requires endless support from government for the companies within the components and modulation complexes, once established; thus enabling them to lead the business in the Mandi Baha-ud-Din area. There needs to be an establishment of automotive technology center or automotive parts innovation center that can link them in, network, tech support, and other related activities
- (5) **An enabling academic partnership:** In a cluster the important aspect is the synergy between these clusters. There needs to be information exchange through networks of homogeneous or heterogeneous forums sorted by components
- (6) **Promoting internationalization:** Currently the auto parts cluster needs to be settled through exchange incurred with foreign automotive specialists and organizations. Additionally, in the future, there needs to be a domestic marketing organization to advertise and market the domestic products internationally to acquire international prestige

The model above needs to fit the following conditions to be carried out successfully:

- Firstly, several factors, attributes of clusters (close proximity between the related companies and research facilities, companies within the supply chain need to increase mutual reliability through co-operation, and so on), must be met;
- Secondly, this business must be preceded by, and agreement of, technological alliance/co-operation and delivery method with complete automobile manufacturers
- Thirdly, there needs to be a master plan before undertaking this project;
- Fourthly, the stakeholders or principal agents in this project need to be fully committed to their role; and
- Lastly, this business must be led by the PSIC

In the auto parts cluster at Mandi Baha-ud-Din there is an ample scope for strategic interventions in certain key areas as described here under.

Technological Up-gradation:

In the Industrial Cluster Foundation stage, first requirement is the up gradation of the technology. Machines and techniques used in the cluster are outdated. They are much more time consuming. An in depth study needs to be carried out in the cluster to understand the basic manufacturing process, quality control methods and ultimately identifying the scope for improvement. Pre requisites for this proposed change are:

- ▶ Organizing meeting with cluster actors.
- ▶ Workshop on needed technologies.
- ▶ Organizing exposure visit to developed cluster.

Technological intervention will helps to reduce time consumption, better quality and reduced costs leading to high profit margin and demand of the products locally and internationally.

Further, periodic workshop/seminar should be arrange by the relevant chamber and /or association to educate the enterprises about the latest technology.

Development of industrial estate:

This step is fundamental to industrial cluster foundation. One of the major issues highlighted by the cluster is congested space for the manufacturing units. To cater this need of the cluster an industrial estate was proposed by the PSIC in 2012 whereas as per industry, industrial estate has not been built to date. Following are the steps proposed for satisfaction of cluster:

- ▶ Interactive session with units in the cluster should be conducted
- ▶ A detailed study regarding the requirement of space
- ▶ Infrastructural facilities should be ensured in Industrial estate to encourage relocation
- ▶ Easy financing facilities for acquisition of plots

Capturing international market:

Access to international markets by the units in the cluster is major constraint in the export volumes of auto parts cluster of Mandi Baha-ud-Din. To capture the international market, concrete steps are needed by the industry, associations and GTCCI. Following are the steps proposed:

- ▶ Promotion of Mandi Baha-ud-Din auto body parts
- ▶ Workshops arranged to train units in the cluster on international marketing
- ▶ Marketing through trade fairs, exhibitions, and well organized buyer seller interaction
- ▶ Invitation to foreign delegates by GTCCI

Financial support to industry:

Cluster requires financing to expand and update machinery to improve the quality of the product but due to religious views most of the units in the cluster are not willing to attain financing through conventional banking. Awareness regarding Islamic financing and special schemes for the industry are required. Following are the steps proposed:

- ▶ Seminars to be arranged by PSIC regarding Islamic mode of financing
- ▶ Special schemes for auto part sector to be introduced
- ▶ Machinery leasing to be introduced based on Islamic financing

Skills development

One of the major impediment in the growth of auto parts cluster is lack of technical knowledge in labor and to improve the skillset in the labor of the industry following are the steps that should be taken by for the cluster manufacturers:

- ▶ Invite experts to establish field of study in a university related to automotive to develop future workforce (like in UET Rasul)

- Awareness programs to highlight the importance of technical background for better skillset
- Introduction of short and long term courses with consultation of industry
- Collaboration with units in the cluster regarding on job training of student

Improvement in Quality of Products:

The products manufactured in the cluster need appropriate technical inspection and quality control system at every stage of production. The system of quality plan can be developed so that the products are produced as per desired technical specifications. Introduction to the anti-corrosion techniques will help improve quality of the final product.

This will ensure the competitiveness of cluster nationally and internationally. Proposed activities are:

- Quality Standardization.
- Awareness Programme(s) on ISO-9000 QMS.
- Educational Programme(s) on ISO-9000 QMS.
- Promoting the importance of maintaining product quality for survival in the long run against competition.
- Initiating Action for establishing Testing labs.
- Common training for workers on quality issues

Establishment of Common Facilities Center:

Establish Center with common facilities including CNC machines for Dies making, Pneumatic Hydraulic Press and phosphate coating treatment plant etc. These facilities are expensive for individual industry but they can collectively benefit from the center. Further, support provided to the units must be at the reasonable rates.

Expenses can be charged according to the exports being carried out by each cluster player on the container basis.

8.2. Action Plan

| Action Plan | | | | | | | |
|----------------------------------|---------|---|--|---------------------------------|---------------------|--|--|
| Category | Sr. No. | Proposed Activities | Objectives of Proposed Activities | Expected Outcomes | Beneficiary | Implementers | Timelines (Completion Date) |
| Technology Up gradation | 1 | Study of present manufacturing process & identifying scope for improvement | <ul style="list-style-type: none"> - Improvement in manufacturing process - Identification of best fit technology - Standardization | Technology improvement | Cluster enterprises | <ul style="list-style-type: none"> ▪ PSIC ▪ Chamber/ Association ▪ Cluster | Replacement of old machinery till 2021 |
| Development of Industrial Estate | 1 | Interactive session with units in the cluster study conducted regarding requirements of space | Assessment of the space requirements of the cluster | Space requirements determined | Cluster enterprises | <ul style="list-style-type: none"> ▪ PSIC ▪ Cluster | Within 6 months |
| | 2 | Easy financing facilities of plots | Facilitating the cluster in acquisition of plots | Space issues resolved | Cluster enterprises | | After completion of S.I.E |
| International markets | 1 | Workshops arranged | Training of units in the cluster | Access to international markets | Cluster enterprises | <ul style="list-style-type: none"> ▪ PSIC ▪ GTCCI ▪ TDAP ▪ Cluster | Within 1 Year |
| | 2 | Trade fairs Exhibition Buyer seller meets Invitation to foreign delegates | Promotion of auto body parts of Mandi Baha-ud-Din | Improved exports | Cluster enterprises | | Within 2 years |

| Action Plan | | | | | | | |
|------------------------|---------|--|---|---|---------------------|--|-----------------------------|
| Category | Sr. No. | Proposed Activities | Objectives of Proposed Activities | Expected Outcomes | Beneficiary | Implementers | Timelines (Completion Date) |
| Financial support | 1 | Seminars on Islamic mode of financing | Awareness to units regarding Islamic mode of financing | Improved financial support | Cluster enterprises | <ul style="list-style-type: none"> ▪ PSIC ▪ GtCCI ▪ Financial institutions ▪ Cluster | Within 1 year |
| | 2 | Machinery leasing schemes | Financing for better technology | New technology | Cluster enterprises | | Within 1 year |
| Skills development | 1 | Experts to be included to devise curriculum of the UET | To develop skilled workforce in this field | Development of skills | Cluster enterprises | <ul style="list-style-type: none"> ▪ PSIC ▪ TEVTA ▪ Cluster ▪ Experts from academia and OEMs | Within 1 year |
| | 2 | Awareness program regarding technical background | Creation of awareness in public to opt for technical education | Development of skills | Cluster enterprises | | |
| | 3 | Introduction of short and long term courses of auto body parts | Improvement of skillset in cluster | Improved technical background | Cluster enterprises | | Within 1 year |
| | 4 | Collaboration with manufacturers | Opportunities for on job training | Practical experience for on job training | Cluster enterprises | | Within 1 year |
| Improvement of quality | 1 | Awareness on the Quality standards and maintenance for survival in the long term | Quality standardization <ul style="list-style-type: none"> - Awareness of the ISO 9000 QMS - Trainings of the workers on quality issues | Awareness in the cluster on quality standards | Cluster enterprises | <ul style="list-style-type: none"> ▪ PSIC ▪ Chamber/ Association ▪ Cluster | Within 1 year |

| Action Plan | | | | | | | |
|--------------------------|---------|---|---|---|---------------------|--|-----------------------------|
| Category | Sr. No. | Proposed Activities | Objectives of Proposed Activities | Expected Outcomes | Beneficiary | Implementers | Timelines (Completion Date) |
| | 2 | Establish testing labs | To provide raw material and finished goods testing facility | Quality in raw material inputs and final product production | Cluster enterprises | | Within 1 year |
| Common Facilities Center | 1 | Establishment of Common facilities Center | To facilitate the auto parts industry in Mandi Baha-ud-Din | Better quality and improvement in exports | Cluster Enterprises | <ul style="list-style-type: none"> ▪ PSIC ▪ Cluster ▪ Experts | Within 2 years |

9. Geo tagging of Auto Parts Manufacturing Cluster in Mandi Baha-ud-Din

| Sr. | Name | Address | Phone Number | Cluster/Industry/Products | Latitudes | Longitudes |
|-----|---|------------------------------------|--------------|--------------------------------|------------|------------|
| 1 | Siyalwi Steel Works | Phalia Road | 0321-7757300 | Auto Body Parts Manufacturing | 32.574633 | 73.47834 |
| 2 | Hamid Auto Engineers | Phalia Road | 0321-7752838 | Auto Body Parts Manufacturing | 32.582838 | 73.482195 |
| 3 | Amir Auto Engineers | Phalia Road | 0321-7742838 | Auto Body Parts Manufacturing | 32.580252 | 73.48339 |
| 4 | Abdul Nasir Engineering Works | Old Rasool Road,Mohallah Sufi Pura | 0300-7744212 | Rickshaw Top Manufacturer | 32.593963 | 73.492928 |
| 5 | Rana Umer Tufail Engineering Works | Old Rasool Road,Mohallah Sufi Pura | 0334-4910945 | Bike Parts | 32.59415 | 73.489649 |
| 6 | Khalid Engineering Works | Sugar Mill Road Near Eid Gah | 0301-6867844 | Bike Parts | 32.587482 | 73.48026 |
| 7 | Sufi Auto Show Part | Mohallah Mujahid Abad Railway Road | 0334-3205001 | Bike Parts | 32.586257 | 73.478768 |
| 8 | Shabir And Brothers | Mohallah Mujahid Abad Railway Road | 0302-7741298 | Bike Parts | 32.586767 | 73.478517 |
| 9 | Falak Sher And Ghullam Rasool Engineering Works | Mohallah Shafqat Abad | 0300-7502831 | Auto Body Parts Manufacturing | 32.584287 | 73.472522 |
| 10 | Talha And Brothers | Mohallah Shafqat Abad | 0300-8261831 | Auto Body Parts Manufacturing | 32.5839 | 73.472902 |
| 11 | Atiq Engineering Works | Mohallah Shafqat Abad | 0300-8626831 | Auto Body Parts Manufacturing | 32.583757 | 73.472975 |
| 12 | Jamshaid And Yasir Engineering Works | Mohallah Shafqat Abad | 0322-9843824 | Auto Body Parts Manufacturing | 32.584492 | 73.473478 |
| 13 | Yousaf Auto Engineers | Mohallah Shafqat Abad | 0333-8016200 | Auto Body Parts Manufacturing | 32.581732 | 73.472998 |
| 14 | Mansha Auto Engineers | Mohallah Shafqat Abad | 0333-8016500 | Auto Body Parts Manufacturing | 32.581456 | 73.473745 |
| 15 | Umar Hayat Engineering Works | Mohallah Shafqat Abad | 0301-4414200 | Auto Body Parts Manufacturing | 32.58106 | 73.474498 |
| 16 | Sikandar Engineering Works | Mohallah Shafqat Abad | 0321-7753341 | Auto Body Parts Manufacturing | 32.581281 | 73.474648 |
| 17 | Abdullah International Auto Body Parts | Phalia Road | 0321-9421163 | Auto Body Parts Manufacturing | 32.570326 | 73.479028 |
| 18 | Naqshbandi Auto Engineering | Phalia Road | 0321-7752157 | Auto Body Parts Manufacturing | 32.578038 | 73.479707 |
| 19 | Haji Khadim Hussain And Sons | Phalia Road | 0300-7740858 | Auto Body Parts Manufacturing | 32.5844217 | 73.48338 |
| 20 | Abdul Majeed Mud Guard Manufacturer | Mohallah Mughal Pura | 0314-3932709 | Auto Body Parts Manufacturing | 32.580252 | 73.48339 |
| 21 | AI Hadeed Auto Manufacturer | Shaheedan wali Road | 0345-6768062 | Rickshaw Top Manufacturer | 32.589602 | 73.504377 |
| 22 | Aftab Auto Engineering | Sugar MILL Road | 0300-7748940 | Rickshaw Roof Top Manufacturer | 32.585041 | 73.4671 |
| 23 | Abdullah Steel Works | Sugar Mill Road | 0332-8008054 | Rickshaw Roof Top | 32.488983 | 73.479339 |

| Sr. | Name | Address | Phone Number | Cluster/Industry/ Products | Latitudes | Longitudes |
|-----|-------------------------------|-------------------------|--------------|-----------------------------------|-----------|------------|
| | | | | Manufacturer | | |
| 24 | Afzal Engineering Works | Sugar Mill Road | 0301-6878846 | Rickshaw Roof Top Manufacturer | 32.587785 | 73.480158 |
| 25 | Mian Engineering Works | Mohallah Mujahid Abad | 0300-7740786 | Auto Body Parts Manufacturing | 32.58561 | 73.476673 |
| 26 | Attari Auto Manufacturer | Mohallah Shafqat Abad | 0321-7216203 | Auto Body Parts Manufacturing | 32.58221 | 73.471577 |
| 27 | Bashir Auto Engineering | Mohallah Shafqat Abad | 0321-7216203 | Auto Body Parts Manufacturing | 32.584053 | 73.472862 |
| 28 | Hassan Auto Engineering | Mohallah Shafqat Abad | 0321-7753040 | Auto Body Parts Manufacturing | 32.584273 | 73.472483 |
| 29 | Sabri Engineering Works | Mohallah Shafqat Abad | 0346-6452957 | Auto Body Parts Manufacturing | 32.58224 | 73.472477 |
| 30 | Mian Asghar Engineering Works | Mohallah Shafqat Abad | 0342-6670883 | Auto Body Parts Manufacturing | 32.581562 | 73.472376 |
| 31 | Umar Hayat Auto Body Parts | Mohallah Shafqat Abad | 0301-6878257 | Auto Body Parts Manufacturing | 32.581422 | 73.474835 |
| 32 | Haji Naseer Ahmed | Mohallah Shafqat Abad | 0301-7758784 | Auto Body Parts Manufacturing | 32.585041 | 73.4671 |
| 33 | Rana Babar Auto Engineering | Phalia Road | 0303-4911411 | Auto Body Parts Manufacturing | 32.562997 | 73.480812 |
| 34 | Rana Abid Engineering Works | Phalia Road | 0321-7740414 | Auto Body Parts Manufacturing | 32.582997 | 73.480812 |
| 35 | Mohammadi Saifi Steel Workjs | Phalia Road | 0345-5863636 | Auto Body Parts Manufacturing | 32.584295 | 73.483668 |
| 36 | Haneef Engineering Works | Phalia Road | 0333-8492153 | Auto Body Parts Manufacturing | 32.599847 | 73.489582 |
| 37 | Zulfiqar Auto Engineering | Phalia Road | 0321-9417560 | Auto Body Parts Manufacturing | 32.594494 | 73.485859 |
| 38 | IrfanullHaq Engineering Works | Old Rasool Road | 0300-7741474 | Auto Body Parts Manufacturing | 32.594494 | 73.485859 |
| 39 | Usman Auto Engineering | Old Rasool Road | 0321-7749404 | Auto Body Parts Manufacturing | 32.594537 | 73.48587 |
| 40 | Lasani Engineering Works | Mohallah Kot Nawab Shah | 0333-8037813 | Auto Body Parts Manufacturing | 32.582842 | 73.445213 |
| 41 | Hussain Auto Body Parts | Mohallah Kot Nawab Shah | 0300-7124326 | Auto Body Parts Manufacturing | 32.582756 | 73.446812 |
| 42 | Haji Riaz Engineering Works | Mohallah Shafqat Abad | 0321-7751418 | Auto Body Parts Manufacturing | 32.583842 | 73.473468 |
| 43 | Saif Auto Engineering Works | Mohallah Shafqat Abad | 0334-4914278 | Auto Body Parts Manufacturing | 32.583764 | 73.471815 |
| 44 | Sabri AutoEngineering Works | Mohallah Shafqat Abad | 0345-5759088 | Auto Body Parts Manufacturing | 32.582053 | 73.472323 |
| 45 | Mirza Auto Body Parts | Mohallah Shafqat Abad | 0333-8073505 | Auto Body Parts Manufacturing | 32.582265 | 73.472378 |
| 46 | Muhammad Saeed Ali | Mohallah Shafqat Abad | 0333-8035384 | Auto Body Parts Manufacturing | 32.58225 | 73.472578 |
| 47 | Mirza Ansar Auto Engineering | Mohallah Shafqat Abad | 0321-7753341 | Auto Body Parts Manufacturing | 32.582132 | 73.476347 |
| 48 | Irfan And Sons | Mohallah Shafqat Abad | 0321-6250238 | Auto Body Parts Manufacturing | 32.584758 | 73.478591 |