

# Chapter 2: Industrial Manufacturing &



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## **DISCLAIMER**

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## **1. INTRODUCTION**

Regional planning has a significant approach in the process of sustainable development. Haughton and Counsell (2004) emphasizes the worthiness of Regional Planning and explains that it determines redistribution of resources such as jobs and surplus working population in a way that each sector of the economy attain benefit by simultaneously meeting the national growth. This also helps in assuring opportunities and jobs to scarce lands. Furthermore, regional spatial strategy (RSS) refers to incorporating spatial framework as a part of policy implementation (i.e. operating regional policies with regional framework). This can be defined as arrangement of land resources within the region for long term planning that aims to achieve synchrony between protection and development through management and control of a territorial space (Liu and Zhou, 2021). Regional Economic development strategies (RESs) are gaining more significance the process of regional planning and for which, regional Development Agencies (RDAs) are responsible for this RESs. Hence, it can be deduced that all economic, social and environmental concerns are inter-related and by incorporating regional context to implementation strategy have the potential to benefit policy making process. Also, Liu and Zhou (2021) determines that lack of this planning process such as frequent revisions, difficulties in implementation, complex approval process and overlapping conflicts led to issue like unbalance regional development, disparity of territory spatial development for largest developing country China. Therefore, with incorporating spatial context into development process is a necessary for contemporary developmental process.

Cumbers and MacKinnon (2004) determine that cluster formation has immense potential for up-gradation of a region. And this is an essential component of the regional ad urban planning process. This process can lead to the specialization that results in enhanced productivity, growth, and employment. Due to this, countries in the developed world such as North America and European nations also encourage clusters. And, also provides the opportunity to target each distinct unit in clusters collectively through R&D, provision of relevant training, capital, and policies, and attain benefit in the form of innovation and learning. And, through this process, a cluster attains an identity that is constituent of individual firms and organizations (Raines, 2002).

Conticelli and Tondelli (2014) discuss that industrial development into the spatial context of regional development has well-defined objectives to achieve that develops eco-industrial parks and support Industrial Ecology theory. The ease of accessibility to industrial sites has defined economic benefits along with environmental gains such as reduction in traffic congestion and efficient waste management. Moreover, this can also lead to urban regeneration, which eventually contributes to and has the main aim of sustainable development.

Similarly, (Magigi, 2008) discusses incorporating the spatial context of regional planning for agriculture prospects can also lead to efficiency of the system. Through the implementation of techniques like zoning, land-use change, accessibility to resources, equitable provision of basic services, density distribution, and land tenure modalities; this framework tends to overcome issues like poverty, food insecurity, and can also maximize land usage.

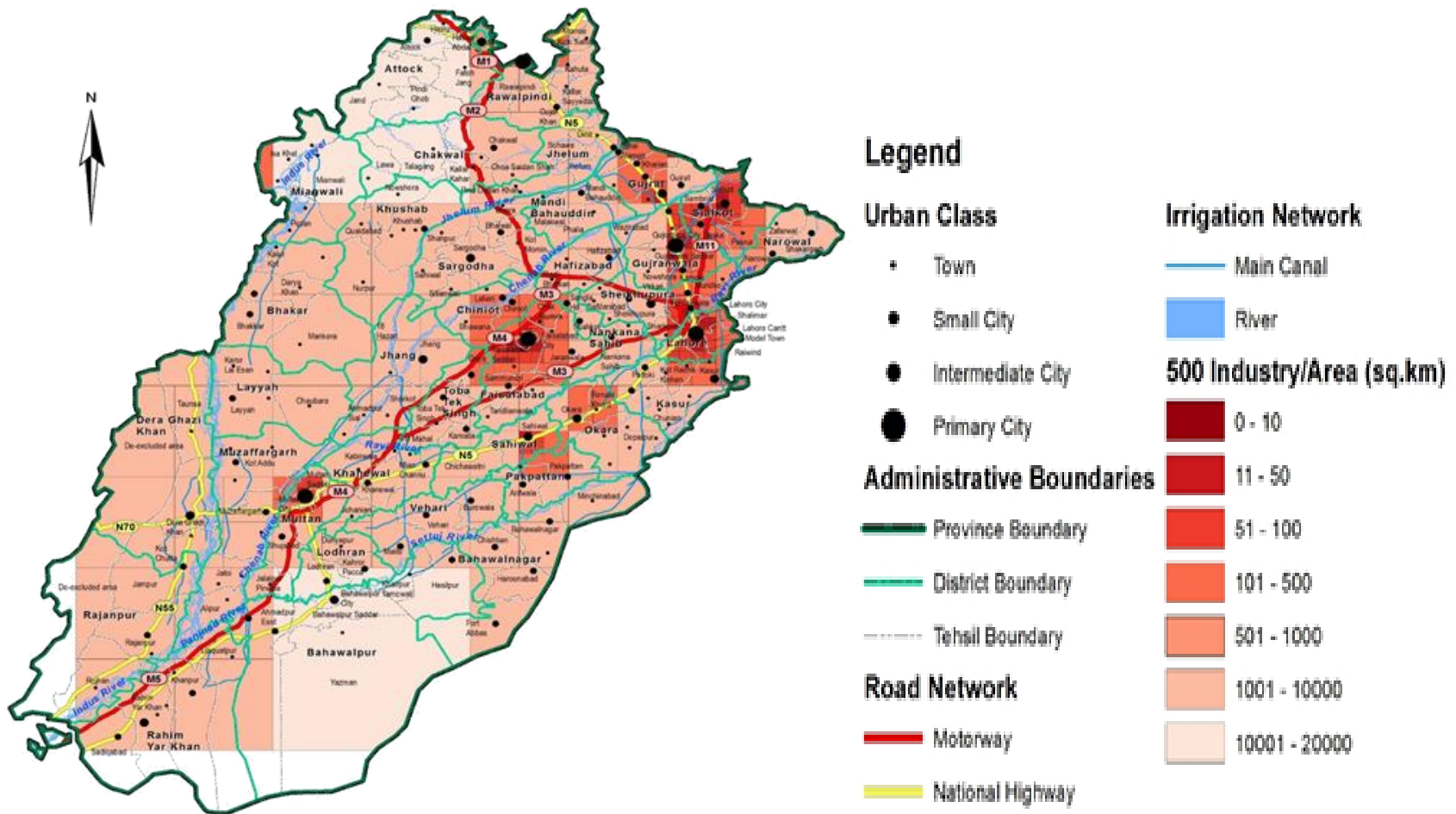
In context of Pakistan, more precisely Sargodha Division Punjab, the regional planning exercise needs an extensive ground level understanding of sectors and prevailing practices within the sectors. This will help to integrate all the sectors and avoid overlapping of projects and interventions. Integration of all local and regional plans is key for the successful plan and this integration does not necessarily needs financial and physical resources, sometime this can be managed through soft policy interventions.

## **2. PUNJAB INDUSTRIAL AGGLOMERATION**

Punjab is the second largest province of Pakistan in terms of area. The highlighted/distinct feature of this province is its geographical location that is located at crossroads and connects with national and international corridors that links to other regional economies. From industrial aspect this province is considered to be the most industrialized in Pakistan and have 70% of small-scale industry and 40% large-scale industry, that is mostly located in north-eastern Punjab<sup>1</sup>. This province also has endowments of rich minerals in its south-western and north eastern parts. Also, population aspect this region is the most populous region in South Asia. There is an apparent demographic shift from rural to urban areas and have 40% of its population living in urban areas. This province is divided into 36 districts that are administered under 9 Divisions. Furthermore, Punjab's economy is not performing at its potential level as the GDP growth rate is around 4% that is lower than its regional competitors. Therefore, Punjab growth Strategy by Government of Punjab aims to introduce sustainable growth path. There is an aim of absorbing 1 million additional workers through 8% of economic growth. And, this can be done through development of relevant industrial and agricultural planning strategies

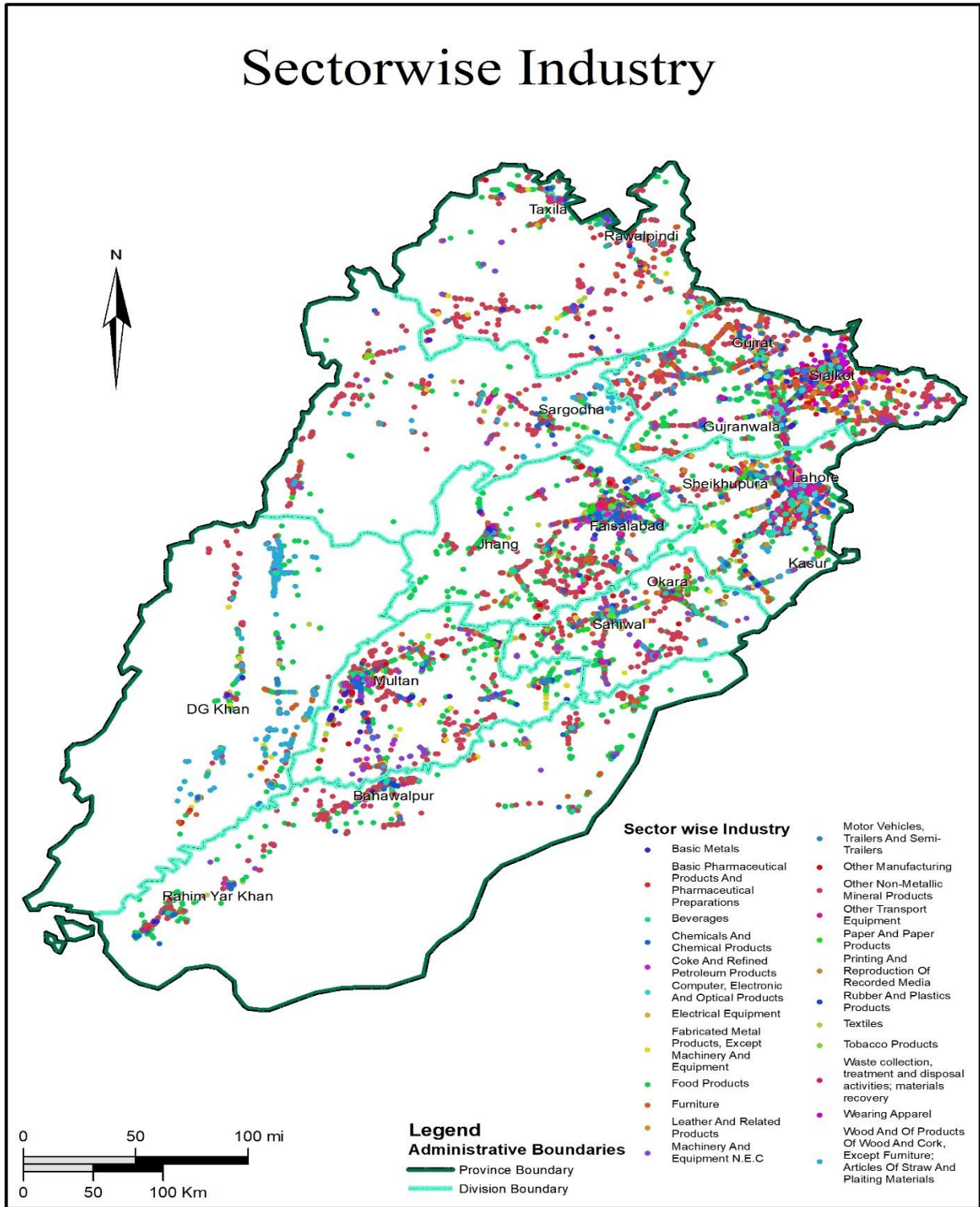
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<sup>1</sup> Punjab Investment Guide 2012



Map 1: Geographical Industrial linkages in Punjab

# Sectorwise Industry



Map 2: Sectoral Agglomeration of Industries in Punjab

Within province Punjab, 75% of total 46,357 active industrial area is in four main concentrations i.e. Faisalabad 28%, Golden triangle 27.3%, Lahore 14.6% and Multan 4.3%. While looking into sectoral composition, Map 2 above depicts the spatial location of manufacturing firms in Punjab. The highest number of manufacturing firms in the province belongs to the textiles sector, which includes spinning, weaving and finishing firms.

The share of Punjab's agriculture sector towards the GDP has reduced as the services sector has seen significant growth since the advent of the new millennium. The economic contribution of industrial sector has remained stagnant over the years. According to latest statistics reported in the Punjab Economic Report (2017) the contribution of Punjab's industrial sector to province GDP stands at 22% in 2015-16. Of this 22%, majority of the industries in the province are agro-based and are dependent on the province's agricultural linkages. These industries include textiles, wearing apparel and food products. The industrial sector of Punjab currently employs a meagrely 24% of the total workforce.

### **2.1. Industrial Agglomeration**

Agglomeration economies and the causal formation of industrial corridors and clusters have played an important role in industrial development of Punjab. The sectors which have developed in the form of natural clusters, although being few in numbers, have experienced high growth rates in past and have been able to take advantage of agglomeration economies.

### **2.2. International Linkages**

Despite transitioning in early 1960's, the industrial sector of Punjab is still inward focused and not expanding in international markets. Four out of the five major clusters are around Punjab's largest cities (except Rawalpindi) i.e., Lahore, Faisalabad, Multan and Sialkot. The Golden Triangle of Punjab is the major exporting hub along Faisalabad. These areas account for nearly 91% of exporting firms in Punjab. However, the number of exporting firms is substantially low (nearly 5% of total manufacturing firms), as nearly all of the firms are catering to domestic demand. The major export-oriented clusters in Punjab are depicted in Table 1.

**Table 1: Major Export Clusters in Punjab**

District	Major Export Clusters
Sialkot	Wearing Apparel, Medical and dental instruments, sports, cutlery hand tools and general hardware.
Faisalabad	Wearing Apparel, Textile weaving and finishing
Lahore	Wearing Apparel
Gujranwala	Cutlery hand tools and general hardware, other fabricated metal products.

As depicted in the Table 2, CMI 2015-16 data reveals that USA is the export destination of 29% of export reporting firms in Punjab. Germany is on second followed by Virgin Islands and UAE. While in case of imports of raw materials, China is leading with almost 50% share in Raw material imports followed by India, Albania and USA. Our imports from China account for 50% of our total imports while only 2.45% is exported back to China as a finished goods. A long-term plan is urgently needed for all the industrial sectors to improve exports and for the consistent growth of export industry.

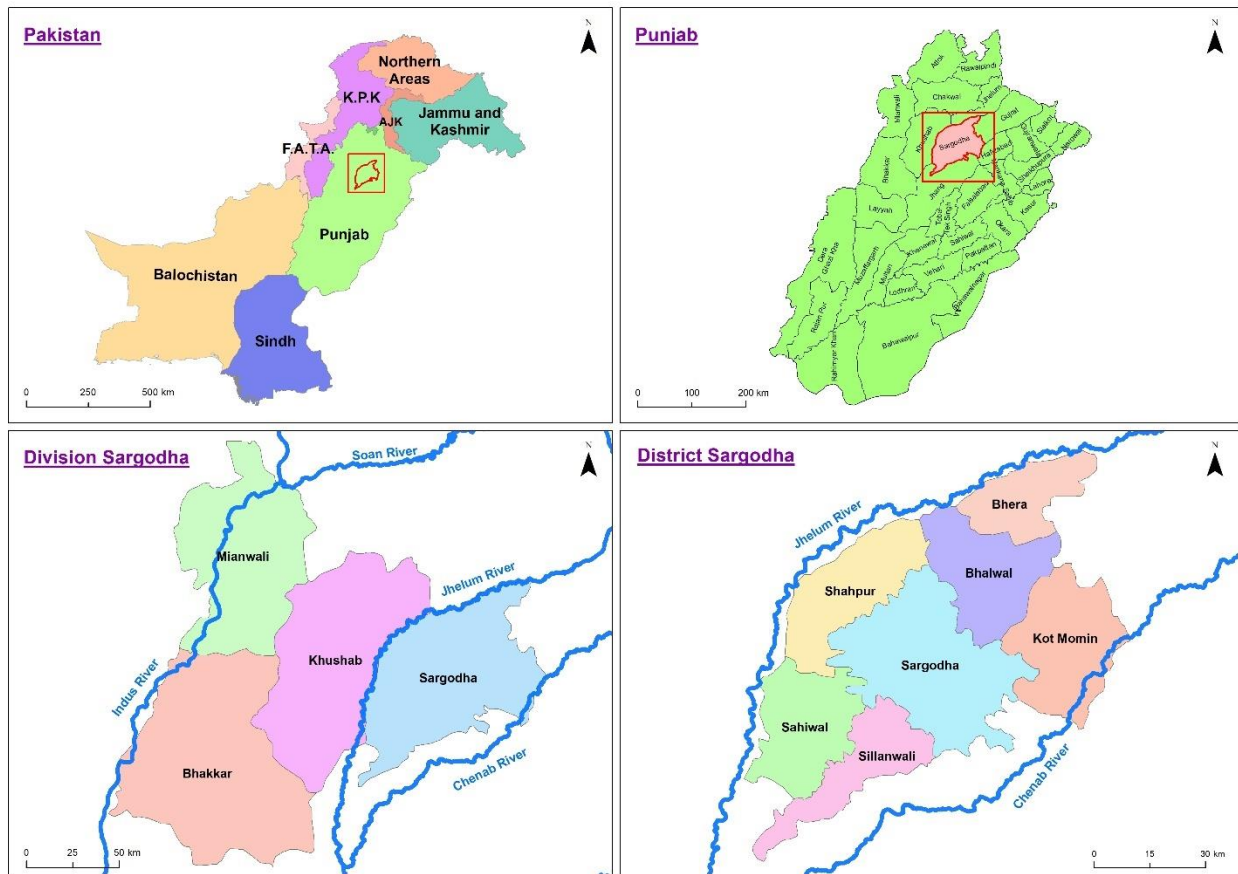
**Table 2: Global industrial linkages for Punjab's industrial sector**

Destination of Exporting Industries		Import Origin for Importing Industries	
Country	Percent	Country	Percent
USA	29.11%	China	49.78%
Germany	13.88%	India	4.98%
UK	7.01%	Albania	4.55%
UAE	4.91%	USA	3.68%
Italy	4.26%	Saudia Arabia	3.46%
Australia	3.51%	UAE	3.25%
Saudi Arabia	3.01%	Germany	2.6%
France	2.96%	Italy	1.95%
China	2.45%	Japan	1.95%
Canada	2.25%	Algeria	1.73%

Source: Census of Manufacturing Industries 2015

### 3. SARGODHA DIVISION OVERVIEW

Within the province of Punjab, the Sargodha division is in the West. This division is further decomposed into 4 districts: Sargodha, Bhakkar, Mianwali, and Khushab. Map 3 below is a visual description of the location of the Sargodha region within Punjab Province and Pakistan. The total area of this region is 26,360 km<sup>2</sup> with 8,181,499 residing individuals. Additionally, this is an agriculture-based economy and is known as California of Pakistan as it is the largest Kinnow (Mandarin) producing district in the world and supplies to other parts of the country and the world. Also, a few renowned industries such as Nestle and Shezan have their processing units operating in this region. Furthermore, Sargodha also has a smooth structural basis and has the presence of supportive institutes such as the Sargodha Chamber of Commerce. The situation of this region reflects a prospect to regulate the process of stabilization through economic development.



**Map 3: Geographical Portrayal of Sargodha Region**

### 3.1. Field Visits

To learn about the ground realities visits were made to industrial sites of the Sargodha region in February 2022. These visits included meetings with the Marketing Manager at Bhalwal Industrial Estate, TEVTA district manager and TEVTA Institutes heads, Stakeholders at Industrial units, Sargodha Chamber of Commerce & Industries, Sargodha Chamber of Small Traders & Small Industry, PSIC's Small Industries Estate Site and Sanatzar, Mianwali. The primary purpose of these meetings was to obtain relevant information specific to the industrial sector in the Sargodha region. The following are the areas of examination:

- Prevailing constraints in the overall development of the region.
- the conditions that are leading to constraints in training and human capital development.
- Hindrance in innovation and efficiency in the system.
- Demand new and existing infrastructure for the development of the region.
- Obstacles in skill development and labor force participation for females.
- Possible interventions required up-gradation of the region, province, and country.

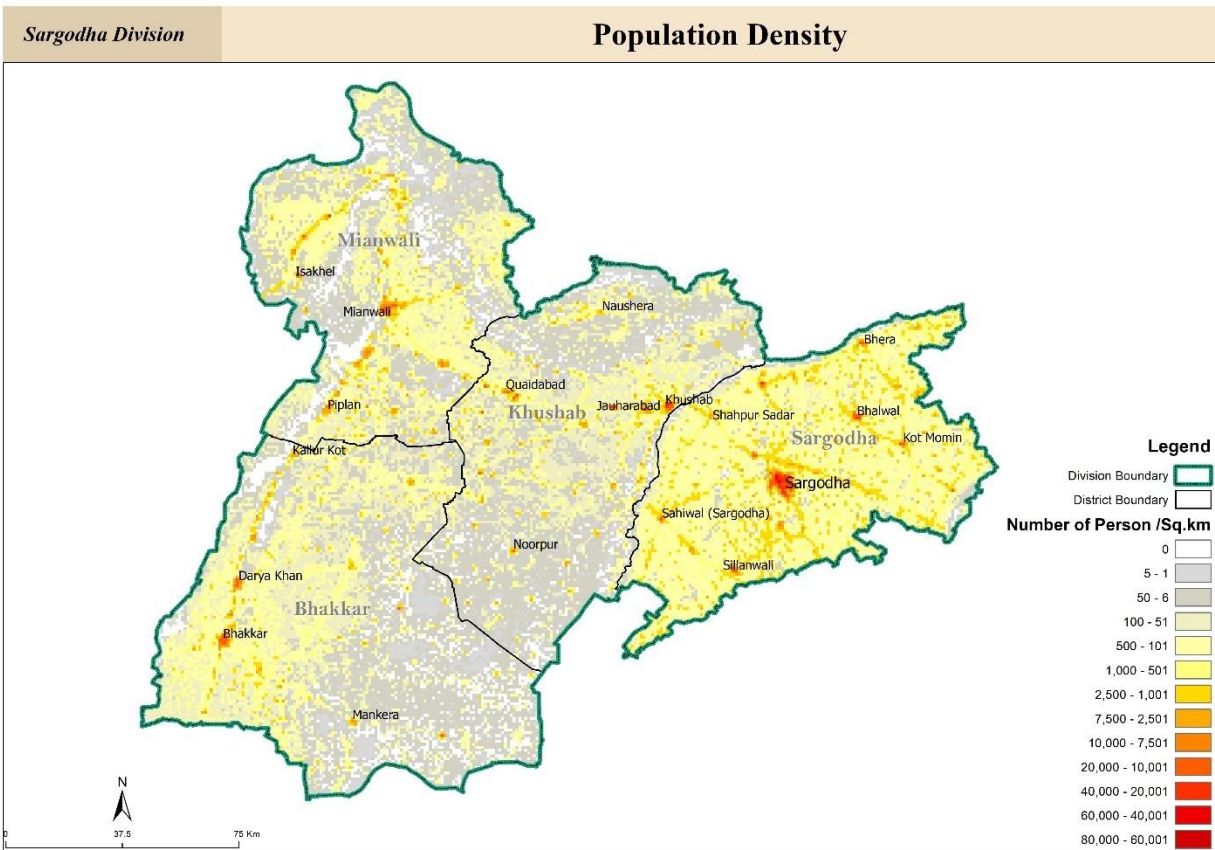
Following are few of the instances of these field visits:



**Figure 1: Instances of Field Visits**

## 3.2. Regional Overview

### 3.2.1 Population Spread

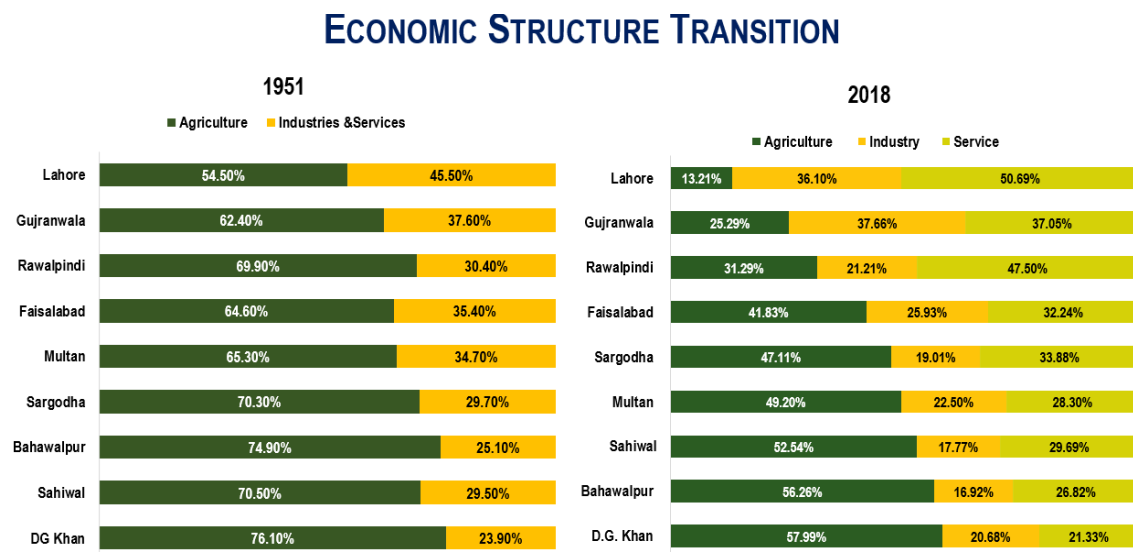


**Map 4: Population Density Spread**

Map 4 displays the density of population in the Sargodha region. It depicts that the Sargodha district is the most populated area of this region, followed by Mianwali, Bhakkar, and Khushab.

Almost all cities in the Sargodha district have a similar population spread except Sargodha city, which has a slightly higher level. Similarly, Mianwali city reflects a higher level of population than the other two cities in the Mianwali district. Within the Bhakkar district, the population is mostly condensed in Bhakkar city followed by Darya Khan and Mankera. And, in the Khusab district, Khushab city has the highest level of population followed by Qaidabad, Joharabad and Nowshera, and Noorpur. Furthermore, there is an agrarian base in this region which explains the presence of excessive small rural localities.

### 3.2.2. Economic Transformation of this Region



**Figure 2: Structural Transition in Punjab**

The above figure 2 is a comparison of economic transition in all nine divisions of Punjab Province. Lahore region has the most transition from agriculture to other sectors of the economy and by the year 2018 on 13.2% of individuals are associated with this sector while 36.1% are in services and 50.69% are associated with the industrial sector. Whereas in the pattern of transition Lahore region is followed by Gujranwala, Rawalpindi, Faisalabad, Sargodha, Multan, Sahiwal, Bahawalpur, and D.G Khan.

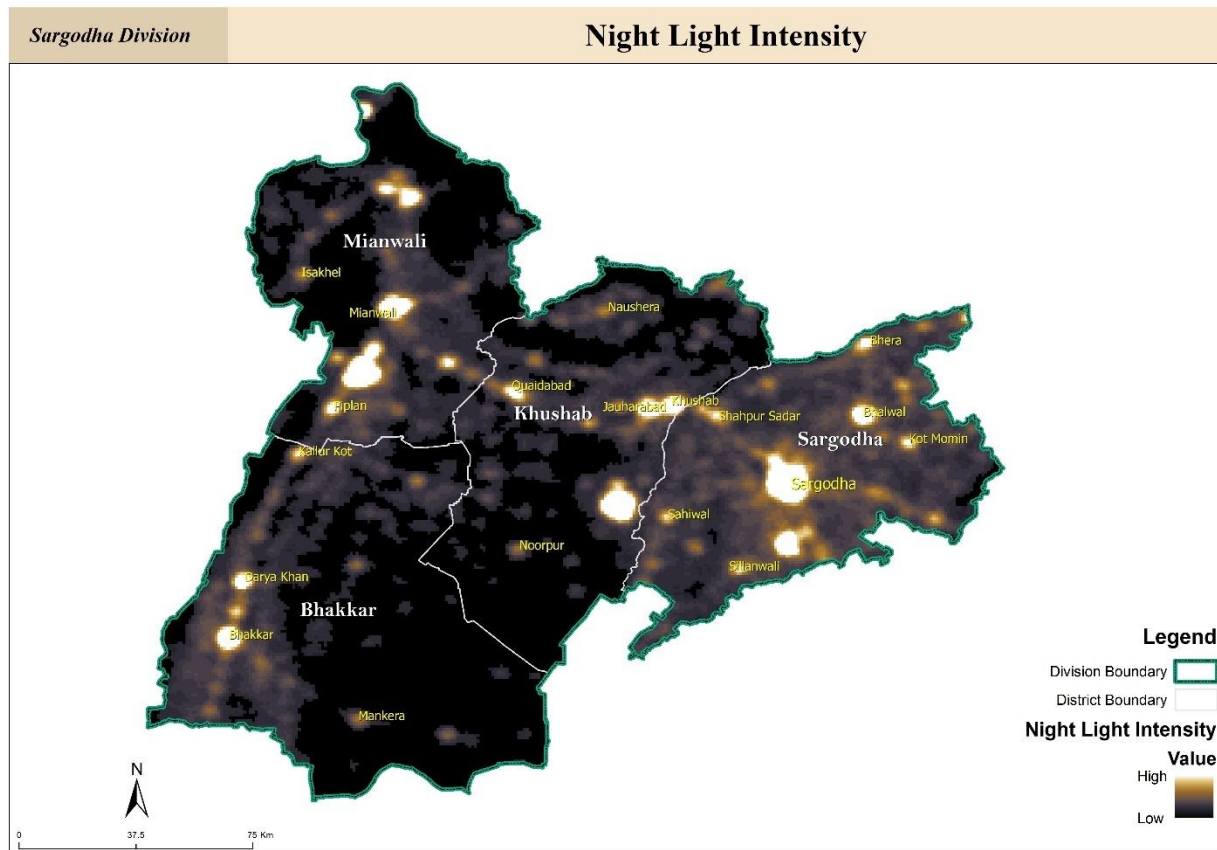
Furthermore, transforming the agriculture sector is a milestone toward modern hi-tech development. The surplus of agriculture is invested in MSMEs and by creating enabling environment through policies, projects, and interventions these MSMEs are developed into large units and MNCs.

Moreover, Rostow's Growth Model suggests development goes through five stages of transitions. And, this process involves stepping up from agriculture to industry to services. Likewise, the transformation of an economy from agriculture to industry signifies the process of industrialization.

However, it is essential to analyze the Sargodha situation in this context. It can be observed that Sargodha is the fifth-highest transforming region of Punjab province. The above figure explains that in 1951 around 70% of this division's population was associated with the agriculture sector. Whereas, by the year 2018, although the highest population is still associated with the agriculture sector, a greater population is transiting towards the industries and services sector: 19% population is part of the industrial sector while almost 34% of the population is part of the services sector.

### 3.3. Industrial Base of the Region

Sargodha region have a strong industrial based as it has a variety of industries that co-exists and contributing in the regional and national development



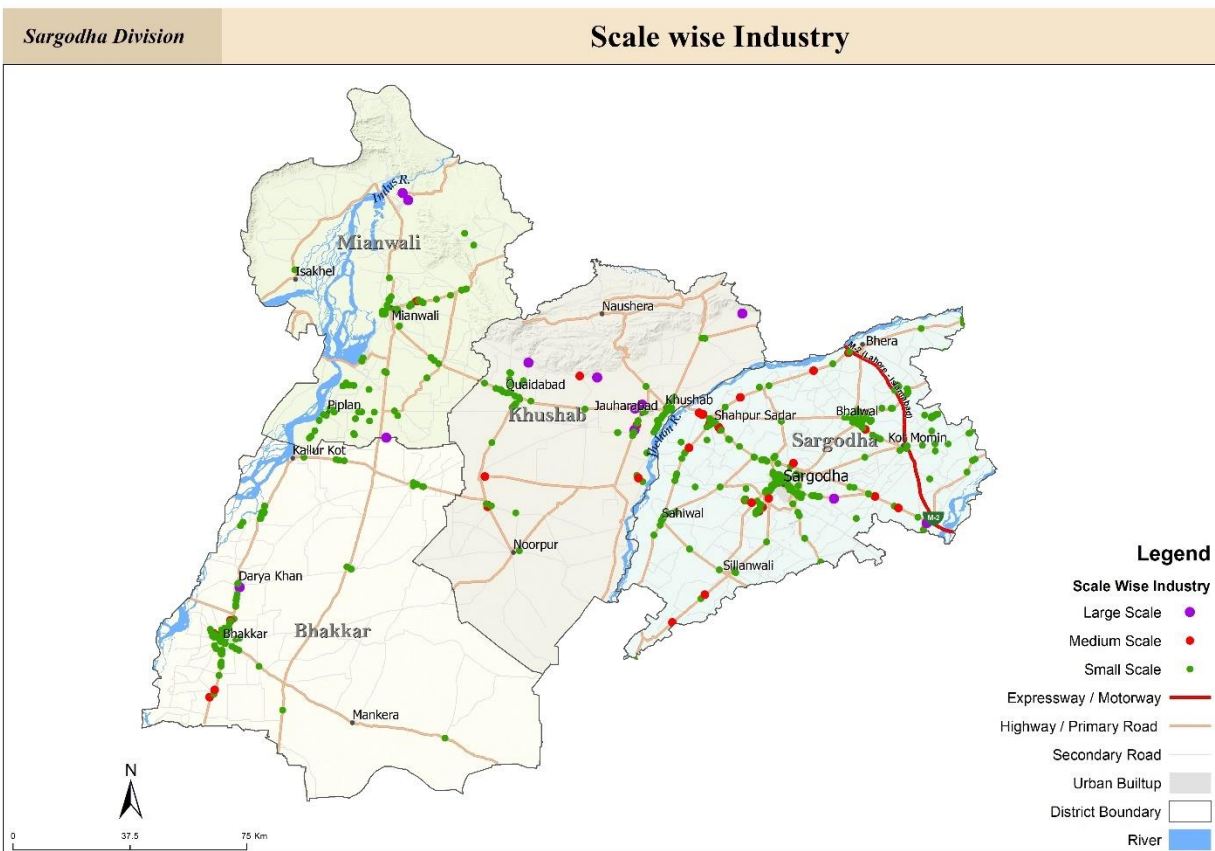
**Map 5: Night Light Intensity of the Region**

This spatial map 5 is explaining the presence of economic activity in the nightlight of the Sargodha region. The highest level of economic activity is in the Sargodha district followed by Mianwali, Khushab, and Bhakkar. From this, it can be accessed that rural activity is relying upon the

Sargodha district with urban pockets. However, other instances of such activity in rural pockets are minimal.

In comparison to the Gujranwala division, the reflection of similar instances is higher, and this is due to urban development. Also, the development along the roadside is higher in Gujranwala, which is minimal in the Sargodha division. And, this suggests a development strategy for Sargodha that through the development of similar roadside Industries and can lead to up-gradation of this region. Also, the higher presence of rural pockets is another reason for the lagging of the Sargodha region.

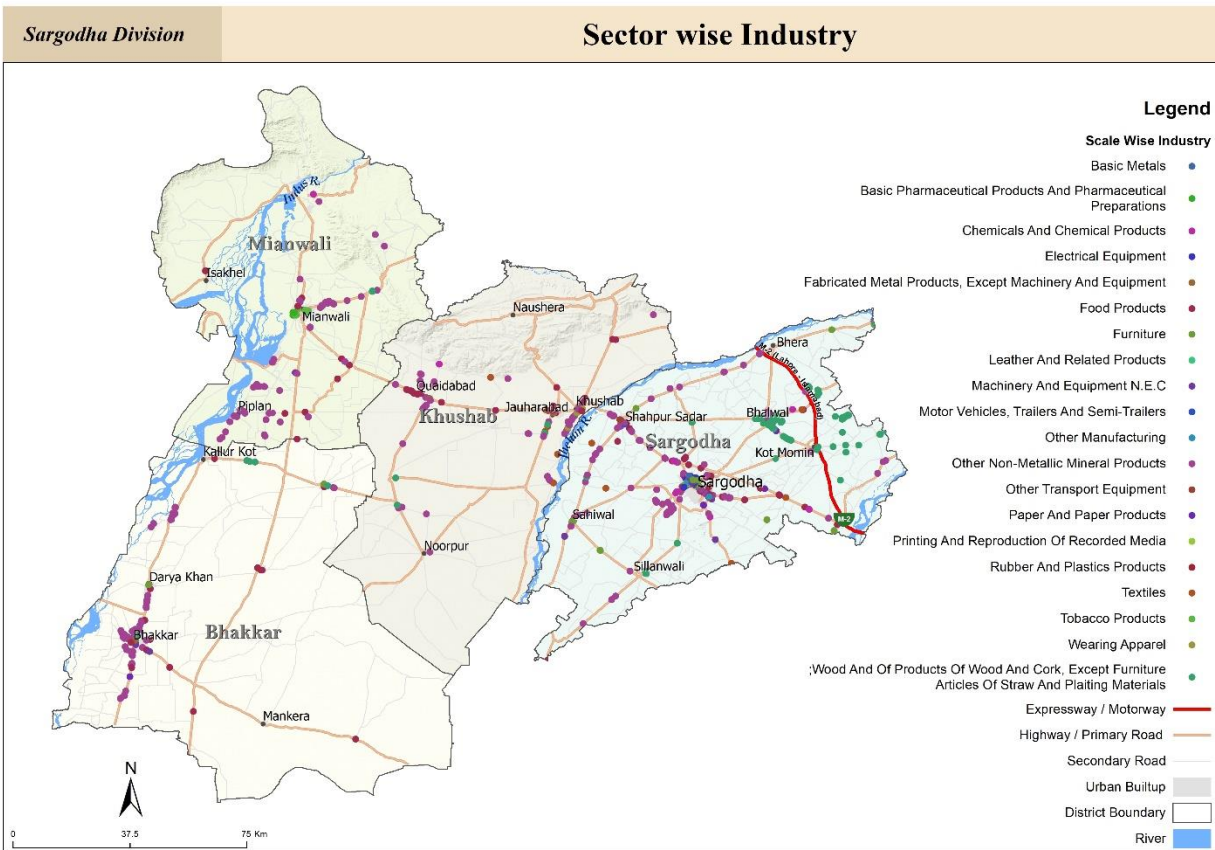
This suggests that economic activity needs to progress in this region. By doing this, urbanization will attract further investment and the cycle of growth and development will initiate.



**Map 6: Scale wise Industry**

In map 6, the instances of sector-wise industry are presented for the Sargodha region. This is an important depiction as the instances reveal that most industry is of small scale and they are

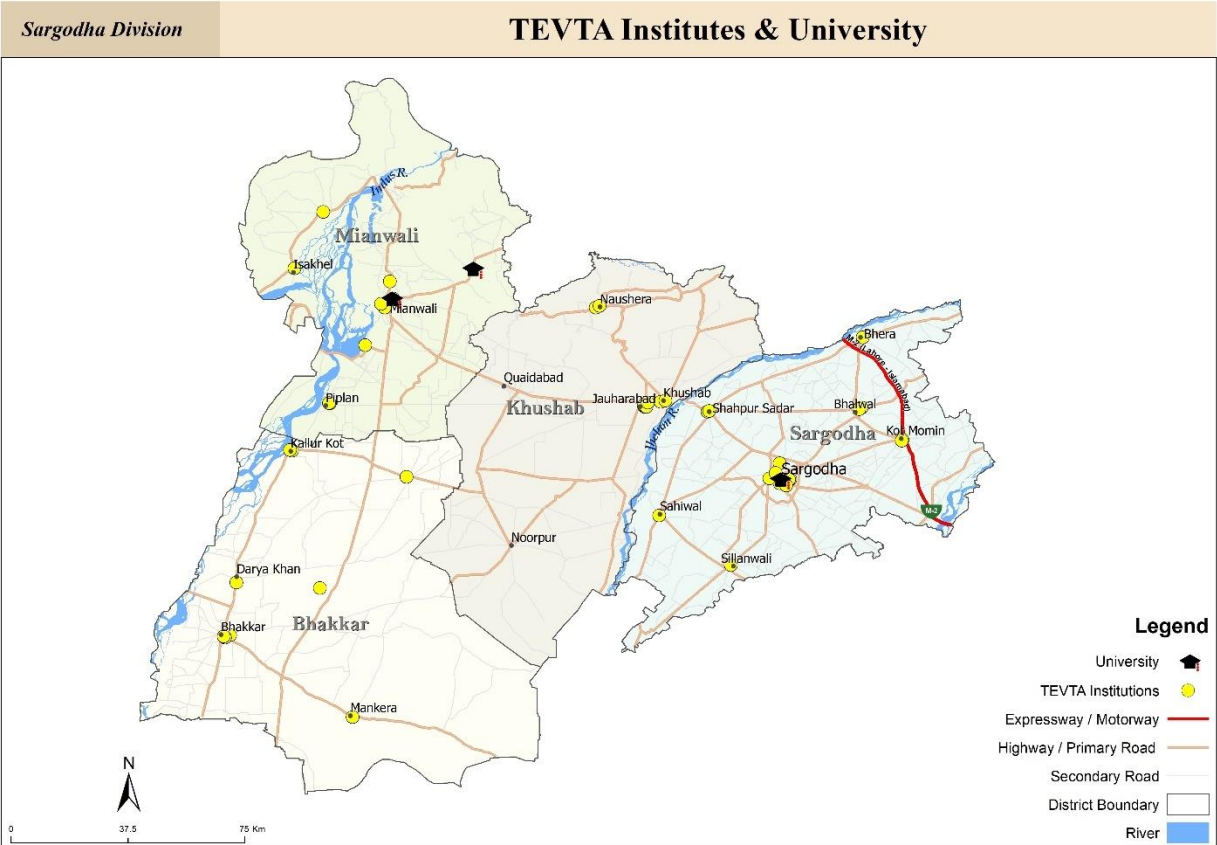
scattered in the overall region but are mostly agglomerated in the urban centers of district headquarters. Also, the sort of industry that is present has a lower level of technology and is more labor-intensive. Furthermore, the ingredient that is necessary for the industrial environment needs is present in this region including land, labor, capital, road connectivity (CPEC routes and motorway connections are present). The absence of enabling environment is leading to the lagging of this region. Therefore, through the introduction of supporting policies up-gradation of this region can be assured.



*Map 7: Sector Wise Industry*

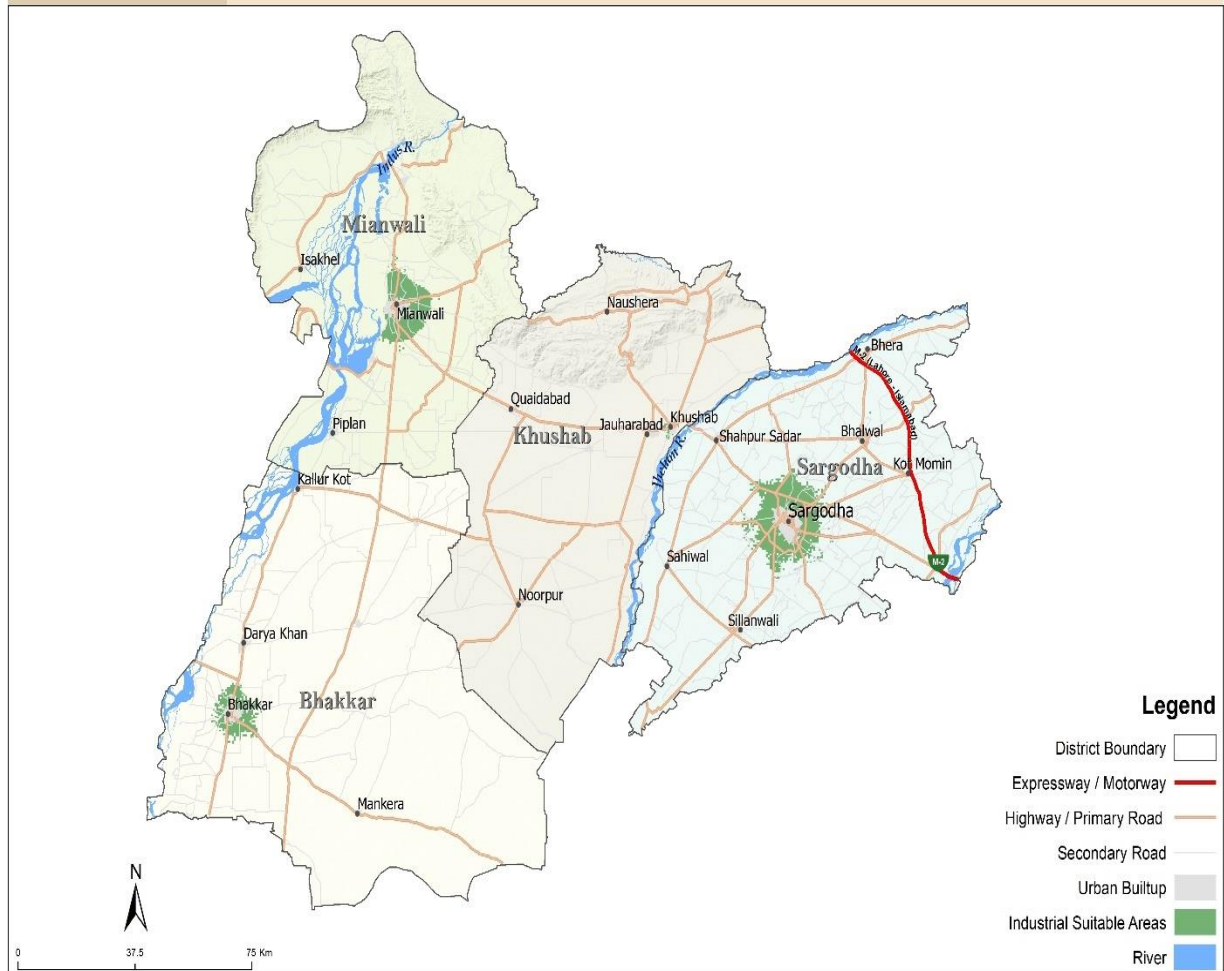
This map 7 is a description of the basis of several industries in this region such as the basic metals industry, chemical, and chemical products industry, electric equipment industry, paper and paper products industry, furniture, and many other industries. Which suggests the regional base for many different industries. Hence, this existing base is for the overall up-gradation of the region. The process of development suggests that the existing industry should attract new investors. But this is not the situation in this region, and the possible reason can be prevailing constraints. It is

necessary to address these issues to obtain the maximum potential of each industry. And therefore, the advancement process will take place. And this happens through the establishment of more industries, value chain advancement, and employment opportunities for more individuals.



**Map 8: TEVTA Institutes & University**

Map 8 shows instances of TEVTA institutes is present in almost all districts of Sargodha but that is very low and for skill development of required labor in industry is necessary. There are only three universities present. One of them is in Sargodha and other two are present in Mianwali region. Also, as discussed above the current industry present here is labor intensive, therefore, it is important to develop labor according to the requirement of the industry. That will complementary labor that can be produced according to requirement of the region. Also, the facilities in the relevant TEVTA institutes according to the requirement of industry must be assure that will be supportive to the regional development industrial policy.



**Map 9: Industrial Suitable Areas**

Map 9 reflects areas of the Sargodha region that are suitable for industry. Suggested areas are Sargodha city, Mianwali city, and Bhakkar city. In these areas, there is a co-existence of industry, population, and TEVTA Institutes (only Bhakkar city does not have any reported TEVTA institute). This persisting situation provides an opportunity to develop a strong industrial base in the region by developing linkages between population and industry. TEVTA institute will be the connecting body between population and industry and will prepare human capital as per the requirement of the industry.

By doing this demand and supply conditions of labor and other resources can be linked. And therefore, the overall resources of the economy will be utilized and coordinated to the maximum extend.

## **4. EXISTING INDUSTRY OF SARGODHA REGION**

Within Sargodha division the current industry is diverse in nature that is the strongest indicator here. This region have Citrus Processing Units, Mines and minerals industry, electric equipment industry, wooden handicraft industry, agriculture machinery, furniture and gems and jewelry industry.

### **4.1. Citrus Processing Units**

Citrus is an important fruit produced in Pakistan; it has a total production of almost 33 percent in Pakistan. Collective production of Citrus fruit in Pakistan is the 14th number (as per the 2018 world ranking). The major citrus-producing hub in Pakistan is Sargodha followed by Toba Tek Singh and Sahiwal.

#### **4.1.1.1. Economic Significance:**

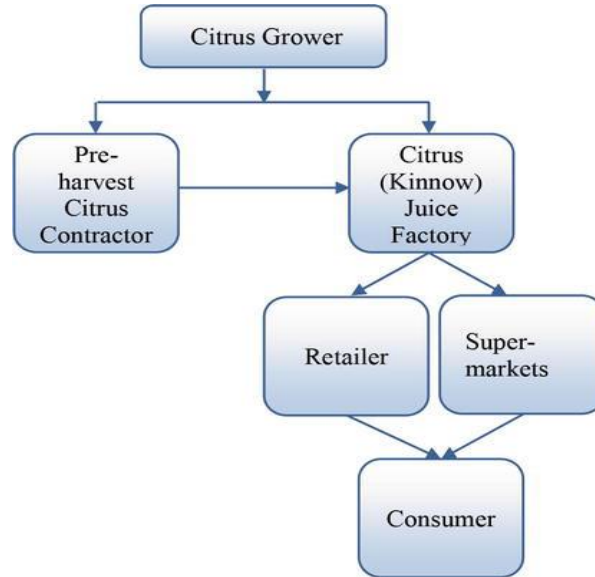
Sargodha region is renowned for its orchards of Citrus and is called California of Pakistan because it is the largest Kinnow producing district. It obtains 3,000,000 tons of citrus fruit from 250,000 hector area. This region also accounts for 94% to 96% of total production and is an important source of earning foreign revenue.

This sector earns 140 million dollars and employs almost 30000 individuals. And by paying taxes of almost Rs. 250 million, it is an essential fiscal contributor. It has more or less 44% of national-level citrus production, which is almost 1 million tons. Furthermore, within the Sargodha region, citrus processing units are mostly concentrated in the Bhalwal district of this region. Mostly, these units operate at small and medium scales, and very few operate at large scales.

Another highlighted feature of this cluster in Sargodha is that these units are catering the international and export market and supply around 90% of overall Pakistan's export. Iran, Afghanistan Malaysia, Indonesia, Russian Federation, and European Countries are major exporting countries of Citrus from Pakistan. Also, this cluster of processing units has formed a network of exporters and traders to target and cater to market demand. While large and medium units directly export to different countries. However, several potential investments will also lead to the development of a further value chain. This includes citrus fruit and pulp

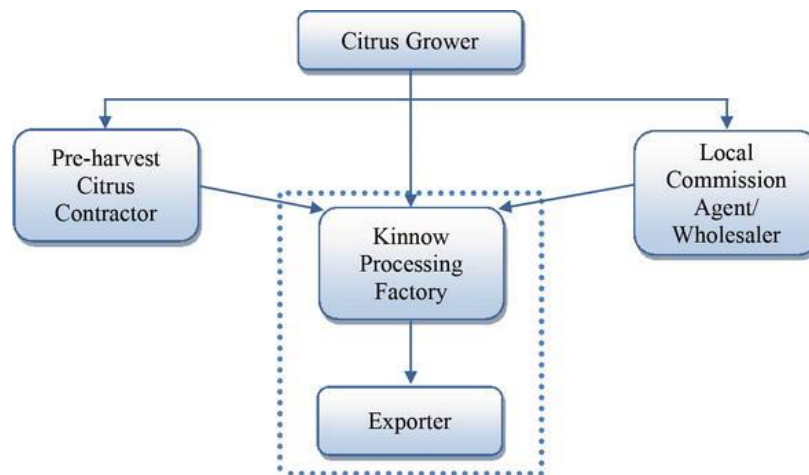
processing and includes jam and jelly processing, recovery of Citrus by-products, corrugated packaging, wood packaging, logistics (transport), and wax manufacturing.

**4.1.1.2. Value Chain**



**Figure 3: Citrus Processing Units Value Chain of Local Producers**

From the local market viewpoint figure, 3 is a depiction of citrus products in local markets. This reflects that citrus growers transfer their initial produces to Citrus Juice factories; either directly or through pre-harvest citrus contractors. After juice processing, these are transferred to retailers and supermarkets. And are then reached to the consumer after this process.



**Figure 4: Citrus Processing Units Value Chain for Exporters**

For exporting citrus products are sent to Kinnow processing factories, through a local commission agent or wholesale or preharvest citrus contractor. These factories add value to the products according to the requirements and send them to exporters. This is reflected in figure 4.

#### **4.1.2. Constraints in Development**

Furthermore, there are several constraints in the progress of these units.

##### *4.1.2.1. Infrastructure and R&D*

Despite the multifold benefits of this sector in this region, there are several connectivity obstacles in these processing units due to poor infrastructure and exploiting to full potential becomes difficult. Moreover, R&D and infrastructure need attention for the progress of this sector to overcome limitations in expertise & infrastructure, cold storage, ripening chambers, packing houses and transportation, air cargo space, and value-added processing facilities.

##### *4.1.2.2. Energy Cost*

Also, the rates of energy are higher than the competitive rate that is added to cost and results in higher prices of final goods and services.

##### *4.1.2.3. Limitations in International Competitiveness*

Whereas, other constraints include skewness of production due to seasonality and perishability, compliance, certifications and standards issues, non-diversification in products (seedless varieties), incompetence with other international countries, and inability to deal with quality sensitive buyers, lack of quality processing and packaging.

##### *4.1.2.4. Recycling of Waste Material*

Furthermore, this industry is the strength of the Sargodha region but still, only 10% of total demand is fulfilled, whereas around 30% is wasted due to mismanagement in harvesting, transporting, packing and storage. Therefore, interventions that are purely directed towards improving the conditions of these units through improved technological conditions from farms to the final destination will be an essential component for the progress of this industry.

Moreover, upgrading and assuring current standards of operation with the international standard will be an additional benefit to this unit and will ease the process of trade and eventually benefit the national economy.

#### **4.2. Electrical Fitting (Bakelite and Other Plastic) Industry at Sargodha**

Major clusters for the production of electrical fittings are present in Sargodha, Karachi, and Lahore. Within the Sargodha region, most units are operating in small and cottage industries. The cluster is scattered around the city of Sargodha. This cluster mainly produces switches, sockets, holders, bell push, and ceiling rose. And, other products include power plugs, indicators, Fuse, Buzzers, Fan Dimmers, Tube Choke & Patti, Street Lights, Main switches, and Wire extensions. This cluster is primarily targeting the local market; around 70% of the electrical parts in Pakistan are being manufactured and supplied from here.

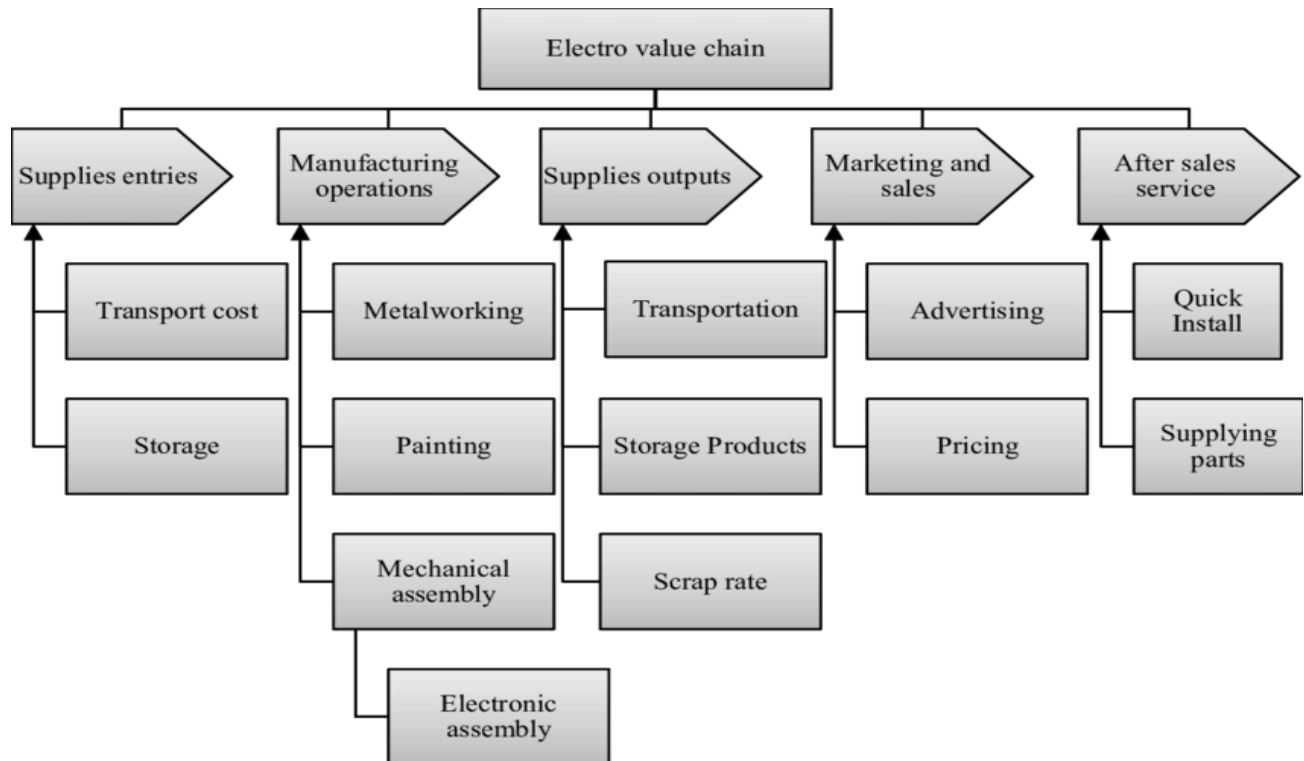
##### **4.2.1. Economic Significance**

There are around 360 manufacturing units (10 Larger and organized units, 150 units in medium and small sector, and almost 200 in cottage industry) in this cluster of Sargodha. Dominant suppliers of this industry in the organized sector are Bush Pakistan (Pvt.) Ltd. and hero industries. Moreover, this cluster is also a source of employment for 10,000 individuals. But the capacity utilization of this industry is around 70% to 80%.

##### **4.2.2. Value Chain Development**

Furthermore, this sector also has potential areas of investment for value chain development. This includes: the manufacturing and importing of Bakelite Powder, production of local electric fitting components (like a screw, pins, holder rings, and pins), packaging and printing of electric fitting, and local production of the glass tube for energy saver as a major portion (around 50 to 60 percent) is imported from China.

In international trade, local sales and export agents are facilitating this sector. However, for marketing and sales manufacturers in this sector have formed distribution networks across the country and maintain a distribution cycle for 30 days from producer to consumer and that is as follows:



**Figure 5: Value Chain of Electric Fitting Industry**

#### 4.2.3. Missing Facilities

Furthermore, the following are several missing facilities in this sector. The major reason for the lagging of this sector is the non-availability of basic CNC machinery (wire cut, milling, etc), used for die/mold making. Upgradation of technology with world technology is another necessarily required ingredient for the up-gradation of this sector. Furthermore, to compete in the international market complying with management, safety, and sanitary systems according to international requirements is needed.

- i. Lack of use of modern manufacturing machines and techniques.
- ii. Marketing strategies are incompatible.
- iii. Display Center
- iv. Import Substitute Policy Support

#### **4.2.4. Constraints**

##### *4.2.4.1. Local Production of Raw Material*

In the production procedure of these electrical products, bakelite resin is the major raw material of production; that is melted and then transformed into the desired shape by applying pressure. Moreover, the quantity of this material has to be in specific measured, and any miscalculation can lead to the malfunctioning of the final product. However, other metallic components such as metallic pins and pipes are also added to the production of the final product. The main raw materials used in this equipment are Bakelite Powder and Urea compound, porcelain, brass and metal products, screws and nuts, pins and pipes, and springs. For this, almost all raw materials are available in local markets with exception of Bakelite resin/ powder. Local products are also used for this material but a huge portion is imported from Italy and China.

##### *4.2.4.2. Technological Barriers*

This sector also needs technological progress for manufacturing purposes. The existing machinery is semiautomatic, locally manufactured, and labor-intensive. Due to these factors, this machinery is inexpensive but incompetent as compared to modern equipment. This lagging leads to further incompetence in designs. Also, the low-quality dies used for these products lead to standardization challenges for manufacturers. To overcome this challenge large producers outsource these dies. But small and cottage industry manufacturers' budget restricts them from importing such material. Another constraint for small producers is the usage of manual presses instead of automatic hydraulic presses.

##### *4.2.4.3. Compliance and Certifications:*

Testing facility for checking mold hardness, metallographic and material testing of molds, etc. Electric testing facilities (e.g. Voltage/Ampere Testing) are also generally not available. Such issues lead to non-competitiveness in international markets.

##### *4.2.4.4. Financing Opportunities:*

Due to the non-awareness of financing facilities, investors in this sector rely on their resources. Despite development defined operational branches in the geographical area, no single financial institution is facilitating the electric fitting industry and available options are not the best fit for their development.

#### 4.2.4.5. *Labor Constraints:*

The labor employed in this sector has a lower level of education which cause hindrance to learn and acceptance of new techniques and mechanisms. Also, most of the labor is trained on the job in this sector.

### **4.3. Wooden Craft**

The handicrafts sector in Pakistan has historical roots that date back to Indus Valley Civilization. Several regions of Pakistan (such as Multan for pottery and Chiniot for wooden furniture) have gained international significance in this sector. And, Silanwali is one of those regions that are renowned for wooden handicrafts with geometric patterns and oriental designs.

#### **4.3.1. Economic Significance**

Economically this sector has immense significance. This cluster has 169 micro-units with 599 workers, 29 small units with 218 workers, and 9 medium units with 203 workers. Furthermore, there are 17 showrooms and 41 suppliers in this cluster. These products are usually used for decorative purposes. The target buyer of this cluster is mostly from the high-income class.

Furthermore, it supplies its goods to other cities, provinces, and countries. Mainly the products from this sector are exported to Australia, Belgium, France, Germany, Holland, Italy, Saudi Arabia, Spain, Sweden, Turkey, USA, and United Kingdom. Whereas, the main competitors are China, Indonesia, India, Korea, Malaysia, the Philippines, and Turkey.

#### **4.3.2. Constraints**

##### *4.3.2.1. Non-proper packaging and branding:*

Silanwali handicrafts have demand constraints in the international markets. This lower demand is due to unbranded products with little or no information, and importers hesitate in buying these products. Hence, it leads to lower offered prices than competitors. Simultaneously, the manufacturer is discouraged due to lower demand in the market.

##### *4.3.2.2. Certification and Quality Standards:*

Additionally, artisans do not meet certification and quality standards which affects the overall export of this segment. However, it is generally sold on the international market when vendors themselves visit international exhibitions and attract targeted customers. The strategy used for

exporting these items is to transport them along with other regular trading items other than handicrafts.

#### *4.3.2.3. Lack of Exhibitions:*

Also, the inefficiency of the system is not encouraging the growth of exports here. Another process followed to gain order in this sector is through exhibitions. Interior designers and relevant buyers visit these exhibitions; observe the capability of the manufacturer; and place orders. Therefore, exhibitions can increase the potential of this segment. But due to non-involvement in such activities sellers miss out on potential orders.

#### *4.3.2.4. Non-Familiarity with E-commerce:*

Furthermore, a larger component of the market share can be captured through online selling. But due to lower international demand producers of this sector are ready to invest in this dimension.

#### *4.3.2.5. Inefficient Machinery:*

The strength of this region is its skilled labor that is found in abundance.

Also, inefficient tools and machinery are used for production. Thus, leading to a compromise on the quality of the final product. Therefore, by incorporating better quality tools and production methodologies, the quality of the final product can be improved by decreasing the cost of production.

#### *4.3.2.6. Technological Constraints:*

Several countries such as India, Indonesia, and Malaysia have developed the handicrafts sector into an industry. However, this market in Pakistan is still in the developing stages and has not attained the status of the industry. And, this is due to several laggings such as lack of education, technological backwardness, unstable prices of raw materials, and lower demand in international markets. Therefore, the up-gradation of this sector is necessary for the overall improvement of this region.

### **4.3.3. Key importing countries**

Major craft importing countries are UK, USA, Canada, Belgium, Germany, Italy, and Spain. They are developed nations as well as known for fashion and latest designs. People have strong

purchasing power for their interests about home decoration. Some importers buy unfinished product and finish according to their customer specifications.

#### **4.4. Agriculture Machinery**

Pakistan is an agricultural-based economy and has a significant contribution to the GDP and employment of the country. However, due to non-availability of machinery at affordable prices and at the right time is one of the constraints for agricultural productivity. Therefore, focusing on this industry will develop a strong basis for this industry and will support the agricultural sector. These implements include machinery that is supportive to farmers for this farm work.

The agriculture equipment industry has around 500 units operating within the country with the majority operating in the Punjab region. Within the province of Punjab; Sargodha, Faisalabad, Okara, Daska, and Hafizabad have manufacturing units in this region. That is operating on small, medium, and large scales.

Over 40% of agriculture equipment-making industries are functioning and are providing livelihood to thousands of people in the Sargodha district. Sargodha region is famous for the production of Combined Thresher (Wheat & Gram), Rotavator, Sub-soilers, Heavy Cane Loader, Wheat Wrapper Machine, Disc Cultivator, Hydraulic Trolley and Trolley.

Furthermore, the equipment made by this industry, especially the multipurpose thresher has no other competitor in Pakistan. Standard crankshafts are not only sold in Pakistan but are also exported to Afghanistan, Iran, and many other countries. Thus, it is a good source of foreign exchange and employment for skilled and semi-skilled workers.

##### **4.4.1. Constraints**

###### *4.4.1.1. Lack of Financing Facilities:*

The operating units are operating at 50% of their installed capacity and this is due to a lack of appropriate financing facilities and the high cost of production. Working capital, technological up-gradation, and leasing facility for farmers are three categories of financing requirements of this industry. Financial institutions do not have any specific products to offer to this sector and are reluctant in offering any such products to SMEs specific in this sector.

#### *4.4.1.2. Raw Material*

Another constraint is uncertainty or scarcity of raw materials that cause limitations for manufacturers. As manufacturers buy raw materials on credit it cost 8% to 12% higher price. Therefore, it is required to finance raw materials to avoid extra prices.

#### *4.4.1.3. Upgradation of Plants and Machinery:*

To meet the requirement in export markets it is needed to upgrade the production plants of this machinery. This will assure competence in international markets, reduce the cost of production and increase efficiency by reducing requirements for labor and raw material waste.

#### *4.4.1.4. Exposure to International Exhibitions:*

Usually, producer of these products displays their products at local shops and workshops. However, there is a resistance to displaying this equipment at any local or international exhibition. This is because of the higher cost of transporting this machinery and the lack of awareness among the producers.

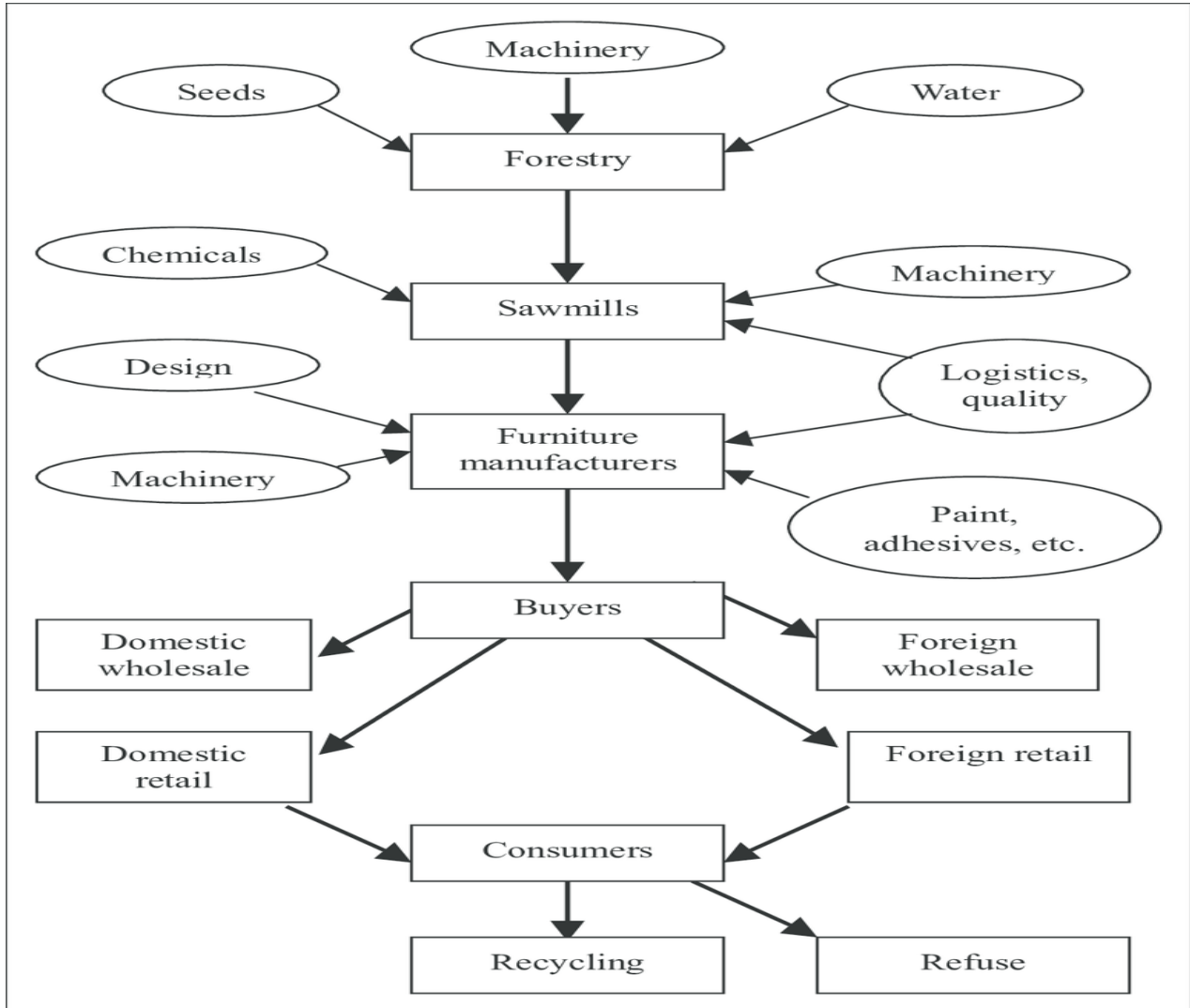
#### *4.4.1.5. Lack of R&D and Innovation:*

Furthermore, due to a lack of R&D, this sector is lagging. Currently, designs are being copied from international markets, and innovation in this dimension can lead to product differentiation in the markets. Also, technology and innovation can improve the productivity of this segment.

### **4.5. Furniture**

Wooden Furniture is an important cluster in Pakistan. Within the province of Punjab, these clusters exist in Gujrat, Chiniot, Karachi, Lahore, Peshawar Rawalpindi, and Sargodha. It is a labor-intensive sector that utilizes traditional production techniques and produces furniture for homes and offices. At the international level China, Vietnam, India, Malaysia, and Turkey have important markets in this sector. Whereas, Pakistan lags behind old production techniques, designs, and low-quality labor. These are sold at local markets and also have international demand. Mainly this furniture from Pakistan is sold in the US, UK, Middle East, and Saudi Arabia but due to the limited capacity of this sector, large exports orders are not fulfilled and therefore become incompetent in the international market. While other competitors such as China and India produce the same product at a lower price and better quality. Furniture is generally classified into three categories i.e. office, home, and industry. The manufacturing of each of this furniture is classified into four steps of the value chain.

1. Wood from the forest department and other sources
2. Timber Merchants
3. Furniture Manufacturer/ Makers
4. Furniture Sellers.



**Figure 6: Furniture Value Chain**

Figure 6 represents value chain of furniture. Furniture links forestry, sawmills, furniture manufacturers, buyer, and consumers. each stage of production is linked to further support. It can be seen that in the first stage seed, water and machinery are relevant supportive units. After transferring raw material to sawmills, logistics, machinery and chemicals are adding value at this stage. Transferring at the next stage where manufacturing takes place and designers, machinery,

logistics, and paints add to the final product. After this stage, final products are transferred to buyers who pass them on to consumers through foreign and local wholesalers and retailers.

#### **4.5.1. Constraints:**

##### *4.5.1.1. Technological Upgradation:*

Technological usage of this sector is of low quality. With the level of current machinery used excellence cannot be achieved. Also, the used machinery is made in Pakistan which is again not competitive with the international world. Furthermore, to overcome this constraint, there is a requirement to improve the quality of used machinery

##### *4.5.1.2. Compliance and Certifications*

There is a lack of certification that prevent this sector to compete at the international level.

##### *4.5.1.3. Lack of Financing Facilities:*

This sector also lags due to the limitation of available financing facilities. There is no developed product by a financial institution for this specific sector which is why entrepreneurs are discouraged from formal financing.

##### *4.5.1.4. Upgradation of Skills*

Also, the current education level of workers is low causing hindrance to learning new skills. There is a need to spend on vocational training and human development in this sector.

##### *4.5.1.5. R&D and Innovation*

This sector also lags due to a lack of research and innovation

##### *4.5.1.6. E-commerce and Marketing*

There is also a lack of international marketing skills in this sector.

##### *4.5.1.7. Raw material Prices Stability*

Also, the prices of raw materials keep on fluctuating and cause hindrance in stabilizing prices

##### *4.5.1.8. Storage of Seasoned Wood*

Another major constraint is seasoned wood due to which order can be delayed.

#### **4.6. Gem and Jewelry**

Gold jewelry has two main reasons for consumption it is used for beautification or investment purposes. This sector has a historical basis in Gandharam Alexandrian and Mughal Eras.

Moreover, Pakistan is blessed with huge natural reserves of gemstones that include: ruby, emerald, garnet, peridot, spinel, diopside, serpentine jade, purple beryl, pink beryl (morganite), sphene, lapis lazuli, kunzite, tourmaline, topaz, aquamarine, pargasite, moonstone, epidote, zoisite, turquoise, and quartz (almost all known varieties).

This sector in Pakistan has immense potential as there are natural reserves of skilled craftsmen, low labor costs, and have growing national and international demand. demand.

#### **4.6.1. Constraints**

Following are constraints identified in this sector.

##### *4.6.1.1. Non-operational Training Institute*

The training institute for labor is non-operational.

##### *4.6.1.2. Obsolete Technology*

Used technology is obsolete and needs to be upgraded to cater to international demand.

##### *4.6.1.3. International Certifications*

Also, there is a need for international certification to access international markets.

## 5. SKILL ANALYSIS

Skill is a complementary requirement for industrial development. And, understanding skill dynamics is an additional benefit in developing regional plans. This provides coordination between labor demand and requirement of sectors and leads to the efficient allocation of resources in the system.

Table 3 shows the percentage employment share of top ten sub-sectors of Sahiwal division at PSIC 2-digit level. As shown in the table, “*Crop and animal production, hunting and related service activities*” contains highest share of labor force i.e., 46.9% and it is included in Agriculture sector. It is followed by “*Retail trade, except of motor vehicles and motorcycles*” which is part of services sector and contains 10.5% employment share. Moreover, the third highest shareholder is “*Construction of buildings*” which contains 7.4% employment share, and it is included in Industries.

**Table 3: Top 10 sub-sectors in Sargodha division in LFS 2018**

<b>Sub-sector</b>	<b>PSIC code</b>	<b>Sector</b>	<b>Percent</b>
Crop and animal production, hunting and related service activities	1	Agriculture	46.89
Retail trade, except of motor vehicles and motorcycles	47	Services	10.48
Construction of buildings	41	Industries	7.43
Land transport and transport via pipelines	49	Services	4.78
Education	85	Services	4.67
Manufacture of wearing apparel	14	Industries	3.04
Public administration and defence; compulsory social security	84	Services	2.28
Manufacture of other non-metallic mineral products	23	Industries	2.11
Food and beverage service activities	56	Services	1.65
Wholesale trade, except of motor vehicles and motorcycles	46	Services	1.63

## 5.1. Sargodha Division (Baseline and Statistics)

### 5.1.1. District Bhakkar LQ

Table 4 shows that the subsector “Construction of buildings” is highly concentrated in district Bhakkar; and the percentage labor force employed in this sub sector is fairly high amounting to 60 percent. Following that, other highly concentrated sectors of the district with a high share of districts’ labor force include Construction of buildings, Education, Manufacture of other non-metallic minerals and so on. More than 75 percent of the labor force in this district in engaged in the aforementioned subsectors.

**Table 4: Location Quotient Analysis Bhakkar District (LFS 2014)**

Sub-sector	PSIC CODE	LQ Index	% LF Share
Crop and animal production, hunting and	1	1.34	60.03
Construction of buildings	41	1.32	7.51
Education	85	1.43	4.85
Manufacture of other non-metallic miner <sup>2</sup>	23	1.95	3.22
Telecommunications <sup>3</sup>	61	6.87	1.58
Activities of membership organizations <sup>4</sup>	94	3.21	1.35
Manufacture of furniture	31	1.28	1.05
Manufacture of wood and of products of	16	1.18	0.45
Waste collection, treatment and disposal	38	3.40	0.34
Veterinary activities	75	4.00	0.28
Legal and accounting activities	69	1.00	0.28

2 Manufacture of glass and glass products 239 Manufacture of non-metallic mineral products n.e.c. 2391 Manufacture of refractory products 2392 Manufacture of clay building materials 2393 Manufacture of other porcelain and ceramic products 2394 Manufacture of cement, lime and plaster 2395 Manufacture of articles of concrete, cement and plaster 2396 Cutting, shaping and finishing of stone 2399 Manufacture of other non-metallic mineral products n.e.c.

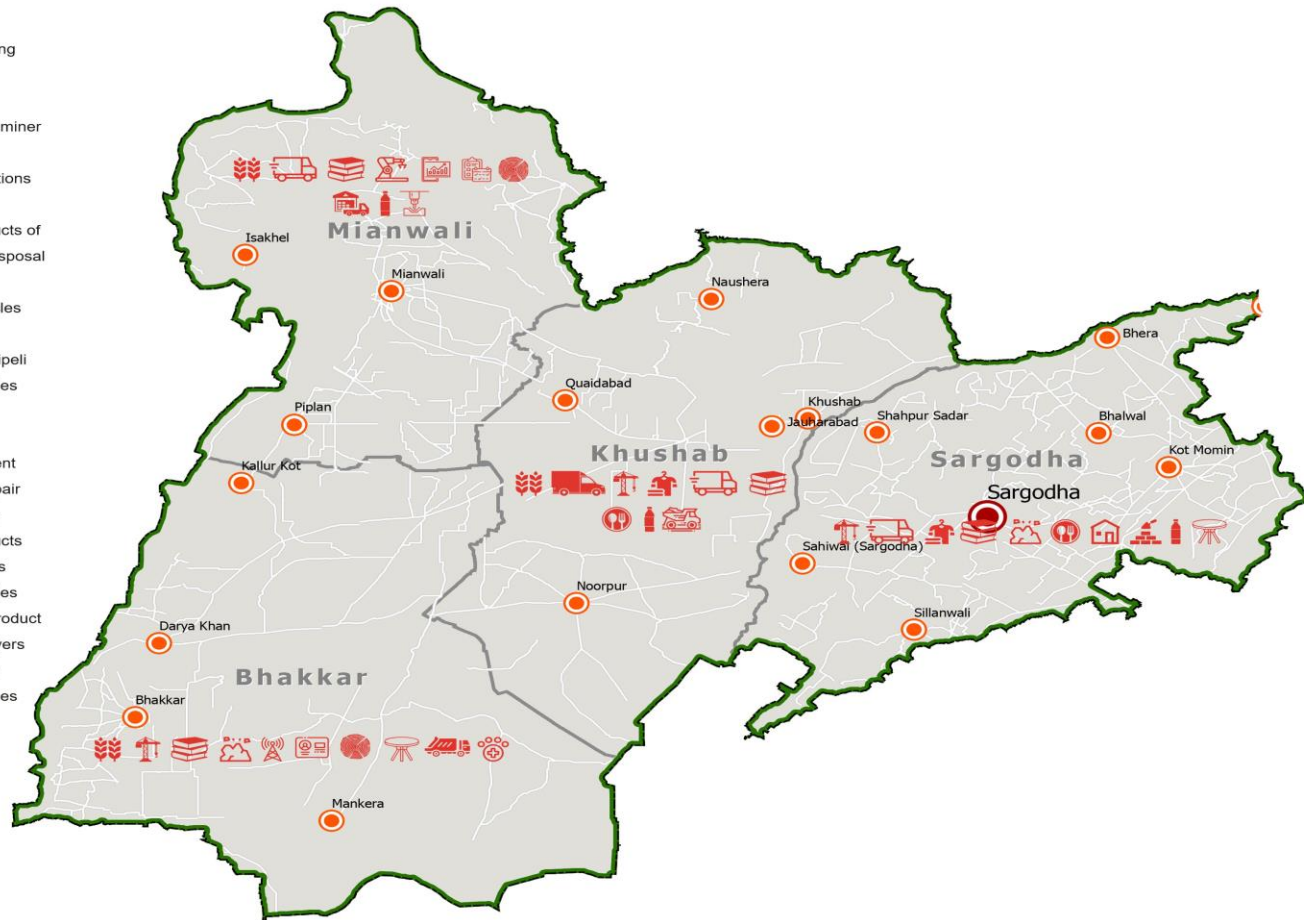
3 Wired telecommunications activities 613 Satellite telecommunications 619 Other telecommunications activities

4 Activities of business, employers and professional membership organizations 9411 Activities of trade unions 9420 Activities of religious organizations 9492 Activities of political organizations 9499 Activities of other membership organizations n.e.c.

<b>Sub-sector</b>	<b>PSIC CODE</b>	<b>LQ Index</b>	<b>% LF Share</b>
Civil engineering	42	<b>1.64</b>	0.23
Scientific research and development	72	<b>2.20</b>	0.22
Water collection, treatment and supply	36	<b>1.46</b>	0.19

## Legend

-  Crop and animal production, hunting
-  Construction of buildings
-  Education
-  Manufacture of other non-metallic mineral products
-  Telecommunications
-  Activities of membership organizations
-  Manufacture of furniture
-  Manufacture of wood and of products of wood
-  Waste collection, treatment and disposal
-  Veterinary activities
-  Retail trade, except of motor vehicles
-  Manufacture of wearing apparel
-  Land transport and transport via pipeline
-  Food and beverage service activities
-  Manufacture of food products
-  Other mining and quarrying
-  Scientific research and development
-  Wholesale and retail trade and repair
-  Public administration and defence
-  Manufacture of wood and of products of wood
-  Warehousing and support activities
-  Food and beverage service activities
-  Manufacture of fabricated metal product
-  Activities of households as employers
-  Specialized construction activities
-  Food and beverage service activities
-  Manufacture of furniture



**Map 10: Sargodha Division Outlay**

### 5.1.2. District Khushab LQ

Table 5 shows that the subsector “Crop and animal production, hunting” is highly concentrated in district Khushab; and the percentage labor force employed in this sub sector is fairly high amounting to 56 percent. Following that, other highly concentrated sectors of the district with a high share of districts’ labor force include Land transport and transport via pipeline, Retail trade, except of motor vehicles , Manufacture of other non-metallic minerals and Manufacture of wearing apparel. More than 70 percent of the labor force in this district in engaged in the aforementioned subsectors.

**Table 5: Location Quotient Analysis Khushab District (LFS 2014)**

<b>Sub-sector</b>	<b>PSIC CODE</b>	<b>LQ Index</b>	<b>% LF Share</b>
Crop and animal production, hunting and	1	1.24	55.56
Retail trade, except of motor vehicles	47	0.98	10.24
Construction of buildings	41	1.36	7.73
Manufacture of wearing apparel	14	1.25	4.81
Land transport and transport via pipeli	49	1.21	4.56
Education	85	1.13	3.84
Food and beverage service activities	56	1.53	1.91
Manufacture of food products	10	0.99	1.53
Other mining and quarrying	8	15.00	0.6
Manufacture of basic pharmaceutical products	21	2.73	0.41
Legal and accounting activities	69	0.96	0.27
Forestry and logging	2	2.44	0.22
Waste collection, treatment and disposa	38	2.20	0.22
Telecommunications	61	0.96	0.22
Sports activities and amusement and recreation activities	93	5.00	0.2
Water collection, treatment and supply	36	1.54	0.2

<b>Sub-sector</b>	<b>PSIC CODE</b>	<b>LQ Index</b>	<b>% LF Share</b>
Civil engineering	42	<b>1.43</b>	0.2
Activities of extraterritorial organizations and bodies	99	<b>19.00</b>	0.19
Scientific research and development	72	<b>1.60</b>	0.16

### 5.1.3. District Mianwali LQ

Table 6 shows that the subsector “Crop and animal production, hunting” is highly concentrated in district Mianwali; and the percentage labor force employed in this sub sector is fairly high amounting to 54 percent. Following that, other highly concentrated sectors of the district with a high share of districts’ labor force include Land transport and transport via pipeline, Education, Scientific research and development and so on. More than 60 percent of the labor force in this district is engaged in the aforementioned subsectors.

**Table 6: Location Quotient Analysis Mianwali District (LFS 2014)**

<b>Sub-sector</b>	<b>PSIC CODE</b>	<b>LQ Index</b>	<b>% LF Share</b>
Crop and animal production, hunting and other related services	1	<b>1.21</b>	54.41
Land transport and transport via pipeline	49	<b>1.59</b>	5.98
Education	85	<b>1.36</b>	4.63
Scientific research and development <sup>5</sup>	72	<b>32.60</b>	3.26
Wholesale and retail trade and repair	45	<b>1.38</b>	2.19
Public administration and defence; comp	84	<b>1.10</b>	1.8
Manufacture of wood and of products of	16	<b>4.32</b>	1.64
Warehousing and support activities for	52	<b>6.79</b>	1.63
Food and beverage service activities	56	<b>1.11</b>	1.39
Manufacture of fabricated metal product	25	<b>1.13</b>	0.98
Telecommunications	61	<b>2.61</b>	0.6

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<sup>5</sup> Research and experimental development on natural sciences and engineering; Research and experimental development on social sciences and humanities

Sub-sector	PSIC CODE	LQ Index	% LF Share
Water collection, treatment and supply	36	1.62	0.21
Waste collection, treatment and disposal	38	1.90	0.19

## 5.2. District Sargodha LQ (Data Analysis)

Table 7 shows that the subsector “Construction of buildings” is highly concentrated in district Sargodha; and the percentage labor force employed in this sub sector is fairly high amounting to 7 percent. Following that, other highly concentrated sectors of the district with a high share of districts’ labor force include Land transport and transport via pipeline, Education, Manufacture of other non-metallic minerals and Manufacture of wearing apparel. More than 30 percent of the labor force in this district in engaged in the aforementioned subsectors.

*Table 7: Location Quotient Analysis Sargodha District (LFS 2014)*

Sub-sector	PSIC CODE	LQ Index	% LF Share
Construction of buildings	41	1.19	6.78
Land transport and transport via pipeline	49	1.67	6.29
Manufacture of wearing apparel <sup>6</sup>	14	1.40	5.39
Education	85	1.55	5.26
Manufacture of other non-metallic miner	23	2.41	3.97
Manufacture of food products <sup>7</sup>	10	1.51	2.34

6 It contains manufacture of articles of fur, manufacture of articles of fur, manufacture of knitted and crocheted apparel and manufacture of knitted and crocheted apparel.

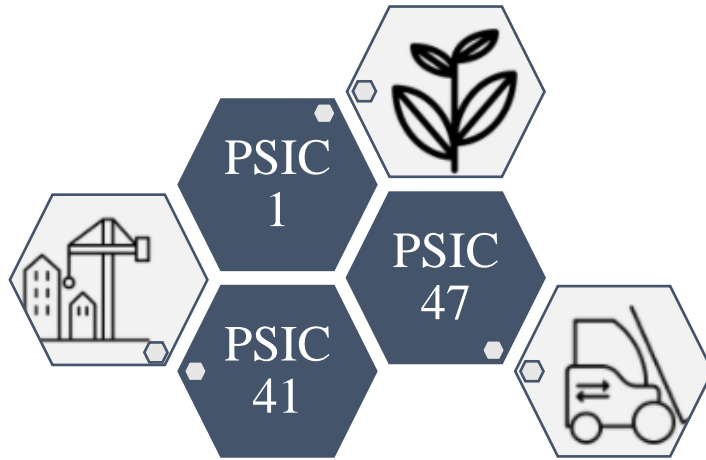
7 Processing and preserving of meat 102 Processing and preserving of fish, crustaceans and mollusks 1020 Processing and preserving of fish, crustaceans and mollusks 103 Processing and preserving of fruit and vegetables 1030 Processing and preserving of fruit and vegetables 104 Manufacture of vegetable and animal oils and fats 1040 Manufacture of vegetable and animal oils and fats 105 Manufacture of dairy products 1050 Manufacture of dairy products 106 Manufacture of grain mill products, starches and starch products 1061 Manufacture of grain mill products 1062 Manufacture of starches and starch products 107 Manufacture of other food products 1071 Manufacture of bakery products 1072 Manufacture of sugar 1073 Manufacture of cocoa, chocolate and sugar

<b>Sub-sector</b>	<b>PSIC CODE</b>	<b>LQ Index</b>	<b>% LF Share</b>
Activities of households as employers	97	<b>1.49</b>	1.88
Specialized construction activities	43	<b>2.41</b>	1.81
Food and beverage service activities	56	<b>1.32</b>	1.65
Manufacture of furniture	31	<b>1.98</b>	1.62
Manufacture of electrical equipment	27	<b>5.43</b>	1.25
Human health activities	86	<b>1.16</b>	1.23
Repair and installation of machinery and	33	<b>1.41</b>	1.03
Other personal service activities	96	<b>0.98</b>	0.97
Manufacture of wood and of products of	16	<b>2.03</b>	0.77
Rental and leasing activities	77	<b>1.88</b>	0.3
Waste collection, treatment and disposal	38	<b>2.90</b>	0.29
Manufacture of paper and paper products	17	<b>1.59</b>	0.27
Insurance, reinsurance and pension fund	65	<b>1.89</b>	0.17
Manufacture of computer, electronic and	26	<b>2.29</b>	0.16
Residential care activities	87	<b>3.25</b>	0.13
Publishing activities	58	<b>3.33</b>	0.1
Forestry and logging	2	<b>1.11</b>	0.1
Postal and courier activities	53	<b>1.13</b>	0.09

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confectionery 1074 Manufacture of macaroni, noodles, couscous and similar farinaceous products  
1075 Manufacture of prepared meals and dishes

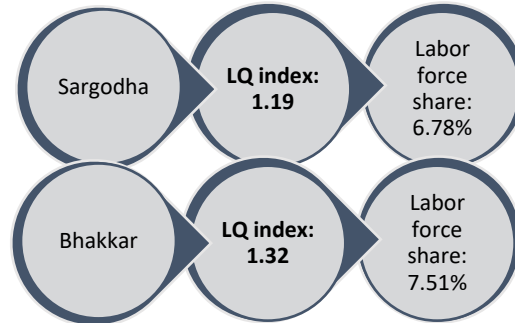
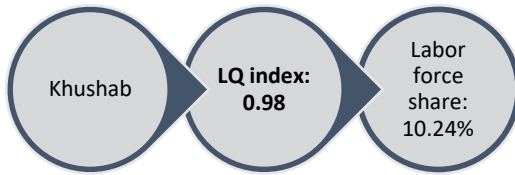
**Top sub-sectors:**



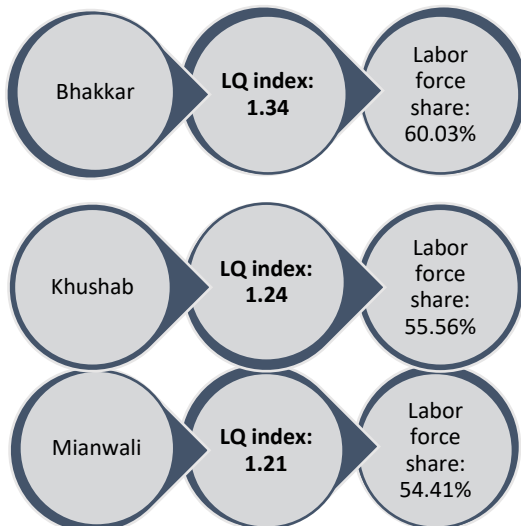
**Key points:**

Retail trade, except of motor vehicules [PSIC 47]

Construction of buildings [PSIC 41]



Crop, animal production and hunting [PSIC 1]

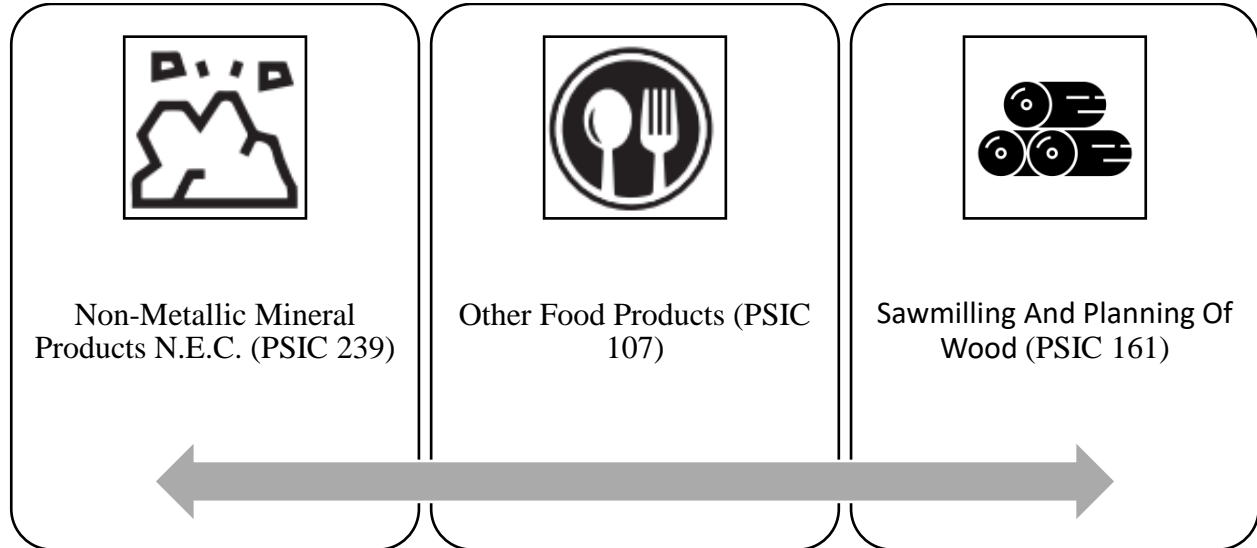


### 5.3. Sargodha Division (Data Analysis)



#### 5.4. Sargodha Division (Shift Share Analysis)

The below mentioned subsectors are highly concentrated and specialized across all districts of Sargodha division.



##### 5.4.1. District Bhakkar LQ

The table 8 shows the concentration and specialization along with respective share of labor force in Bhakkar using the CMI 2017 data. As evident in the table, the “Non-Metallic Mineral Products N.E.C.” is highly concentrated sector in the region having 56% share of labor force which shows that it is a large firm. It is followed by “Other Food Products” which is also a large firm having 33.6% share of employment.

**Table 8: Location Quotient Analysis District Bhakkar (CMI 2017-18)**

Sub-sector	PSIC code	LQ Index	% share of LF
Non-Metallic Mineral Products N.E.C.	239	6.19	56.19
Other Food Products	107	6.18	33.65
Vegetable And Animal Oils And Fats	104	1.91	2.15
Special-Purpose Machinery	282	1.70	1.98
Sawmilling And Planning Of Wood	161	2.82	0.67

#### 5.4.2. District Khushab LQ

The table 9 shows the concentration and specialization along with respective share of labor force in Khushab district using the CMI 2017 data. Table shows that the “Other Chemical Products” is highly specialized sector in the region having 9.5% share of labor force in the region. However, “Non-Metallic Mineral Products N.E.C.” and “Spinning, Weaving And Finishing Of Textiles” are the regions which contain most share of labor force i.e., 35% and 34% respectively and both are specialized sectors in Khushab.

**Table 9: Location Quotient Analysis District Khushab (CMI 2017-18)**

Sub-sector	PSIC code	LQ Index	% share of LF
Non-Metallic Mineral Products N.E.C.	239	3.90	35.37
Spinning, Weaving And Finishing Of Textiles	131	1.43	34.18
Other Food Products	107	2.92	15.88
Other Chemical Products	202	6.27	9.47
Products Of Wood, Cork, Straw And Plaiting Materials	162	1.28	1.11
Sawmilling And Planning Of Wood	161	1.76	0.42

#### 5.4.3. District Mianwali LQ

The table 10 shows the concentration and specialization along with respective share of labor force in Mianwali district using the CMI 2017 data. The Table shows that the “Basic Chemicals, Fertilizers And Nitrogen Compounds, Plastics And Synthetic” is highly concentrated sector in the region. It contains significant labor force i.e., 24.7%. Moreover, “Non-Metallic Mineral Products N.E.C.” is the sector having most share of employment i.e., 46.6% and it is specialized sector. On the other hand, sector “Tobacco Products” is highly specialized however it only captures 0.64% of the labor force which is too minimal compared to other sectors.

**Table 10: Location Quotient Analysis District Mianwali (CMI 2017-18)**

Sub-sector	PSIC code	LQ Index	% share of LF
Non-Metallic Mineral Products N.E.C.	239	5.14	46.69
Basic Chemicals, Fertilizers And Nitrogen Compounds, Plastics And Synthetic	201	25.64	24.77
Other Food Products	107	4.14	22.52
Pharmaceuticals, Medicinal Chemical And Botanical	210	1.34	1.88
Tobacco Products	120	21.24	0.64
Sawmilling And Planning Of Wood	161	2.60	0.62

#### **5.4.4. District Sargodha LQ**

The table 11 shows the concentration and specialization along with respective share of labor force in Sargodha district using the CMI 2017 data. The Table shows that the “Processing And Preserving Of Fruit And Vegetables” is highly concentrated sector in the region but its labor force share is not too significant compared to others. There are other specialized sectors containing more labor force e.g., “Non-Metallic Mineral Products N.E.C.” and “Products Of Wood, Cork, Straw And Plaiting Materials” having 33% and 13.9% employment share in the region.

**Table 11: Location Quotient Analysis District Sargodha (CMI 2017-18)**

Sub-sector	PSIC code	LQ Index	% share of LF
Non-Metallic Mineral Products N.E.C.	239	3.68	33.38
Products Of Wood, Cork, Straw And Plaiting Materials	162	16.11	13.95
Other Food Products	107	2.55	13.86

Sub-sector	PSIC code	LQ Index	% share of LF
Processing And Preserving Of Fruit And Vegetables <sup>8</sup>	103	31.94	6.63
Grain Mill Products, Starches And Starch Products	106	1.33	5.29
Wiring And Wiring Devices	273	15.49	4.92
Other Chemical Products	202	1.49	2.24
Sawmilling And Planning Of Wood	161	8.28	1.97
Basic Precious And Other Non-Ferrous Metals	242	15.34	1.96
Prepared Animal Feeds	108	1.55	1.19
Other Electrical Equipment	279	3.13	0.45
Weapons And Ammunition	252	14.47	0.12
Electric Lighting Equipment	274	1.53	0.12

### Key points:

The below mentioned subsectors are highly concentrated (having most employment share) and specialized (having LQ > 1.05) across all districts of Sargodha division. As shown in the infographics, each subsector has been mapped in accordance with its LQ Index and labor force share in respective district.

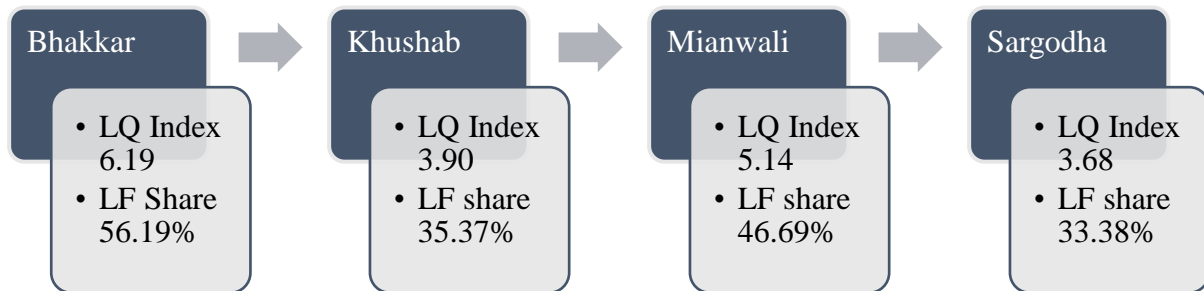
Hence, TEVTA should develop courses targeting these activities to these sub-sectors would improve overall productivity of the labor force, , while also helping to achieve sustainable regional economic growth.

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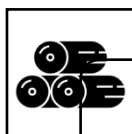
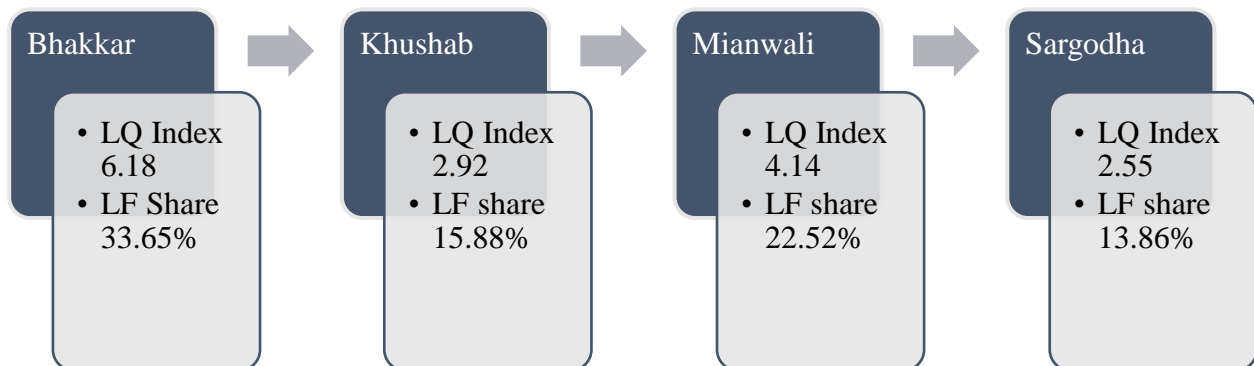
<sup>8</sup> This class includes manufacture of food consisting chiefly of fruit or vegetables, except ready-made dishes in frozen or canned form, preserving of fruit, nuts, or vegetables: freezing, drying, immersing in oil or in vinegar, canning etc., manufacture of fruit or vegetable food products — manufacture of fruit or vegetable juices — manufacture of jams, marmalades, and table jellies — processing and preserving of potatoes etc.



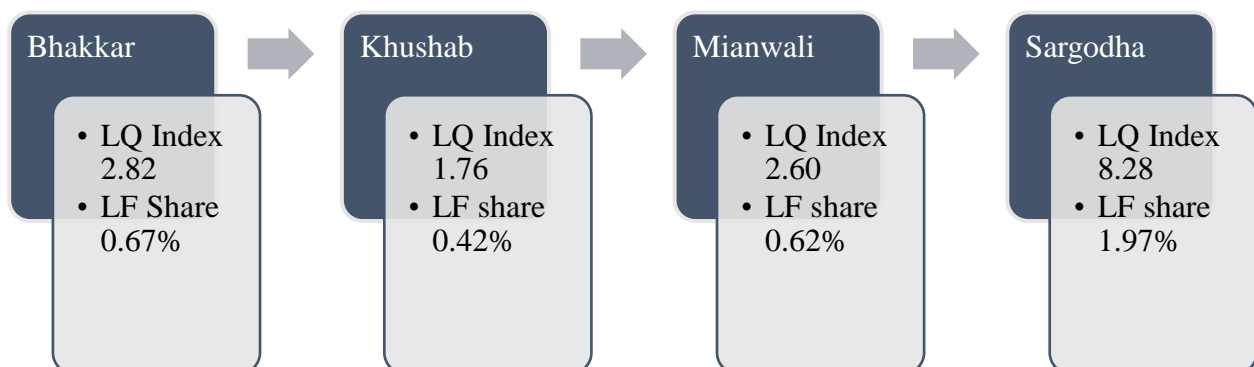
Non-Metallic Mineral Products N.E.C. (PSIC 239)



Other Food Products (PSIC 107)



Sawmilling And Planning Of Wood (PSIC 161)



## 5.5. Shift Share Analysis

### 5.5.1. Sargodha Division

Table 12 depicts the change in employment during a period of 2010 to 2018 at sub-sector level for Sargodha Division. Then, using SSA approach, this employment change is decomposed into provincial growth effect, industry mix effect and competitive effect. For instance, the data shows there is an increase of more than 156,487 employees in construction sector, but out of this total employment effect, only a small change in growth is observed due to the provincial effect. A sizeable change of 67,888 is witnessed due to industry mix effect and the rest of the growth of 88,631 is due to the local competitive effect of the division. Alongside the construction sector, Sargodha has ‘financial service activities,’ and ‘manufacture of fabricated metal products as the most competitively growing sub-sectors, as shown in the following Table.

**Table 12: Shift Share Analysis (2010-2018) for Sargodha Division showing employment growth and competitiveness at Sub-sector (PSIC 2 digit) Level**

Sub-Sector	PSIC 2	Provincia l Growth Effect	Industry Mix Effect	Competitiv e Effect	Total Change in Employment
Construction of buildings	41	168	67,688	88,631	156,487
Financial service activities, except insurance and pension funding	64	27	118	11,663	11,808
Manufacture of fabricated metal products, except machinery and equipment	25	49	908	7,763	8,719
Manufacture of rubber and plastics products	22	439	101	1,284	1,824
Manufacture of paper and paper products	17	6,701	(27,778)	668	(20,409)
Forestry and logging	2	535	1,802	555	2,892
Information service activities	63	1,586	(6,479)	(17)	(4,910)

<b>Sub-Sector</b>	<b>PSIC 2</b>	<b>Provincia 1 Growth Effect</b>	<b>Industry Mix Effect</b>	<b>Competitiv e Effect</b>	<b>Total Change in Employment</b>
Veterinary activities	75	11,049	(46,969)	(34)	(35,953)
Accommodation	55	6,965	(29,276)	(490)	(22,800)
Manufacture of computer, electronic and optical products	26	7,658	(32,086)	(783)	(25,210)
Security and investigation activities	80	21,867	(92,781)	(897)	(71,811)
Manufacture of furniture	31	834	10,171	(1,019)	9,987
Manufacture of basic metals	24	685	(1,481)	(1,051)	(1,848)
Printing and reproduction of recorded media	18	17,591	(73,585)	(1,390)	(57,384)
Water collection, treatment and supply	36	7,414	(29,587)	(1,525)	(23,698)
Warehousing and support activities for transportation	52	56,467	(244,084)	(1,698)	(189,315)
Scientific research and development	72	280	2,919	(2,346)	853
Education	85	8,326	64,840	(2,595)	70,571
Manufacture of chemicals and chemical products	20	5,063	(13,670)	(6,187)	(14,793)
Advertising and market research	73	1,790	264	(7,278)	(5,224)
Telecommunications	61	315	13,565	(10,014)	3,866
Wholesale and retail trade and repair of motor vehicles and motorcycles	45	35,254	(111,840)	(11,539)	(88,125)
Manufacture of other non-metallic mineral products	23	284	55,827	(12,393)	43,718

Sub-Sector	PSIC 2	Provincia 1 Growth Effect	Industry Mix Effect	Competitive Effect	Total Change in Employment
Manufacture of wearing apparel	14	141	123,827	(60,166)	63,802
Activities of households as employers of domestic personnel	97	237	143,005	(124,208)	19,034
Crop and animal production, hunting and related service activities	1	294,215	(38,083)	(264,001)	(7,869)

Sargodha region requires the courses related to the following competitive and growing sub-sector. Given that, it is anticipated that there is going to be an increase in demand of labor force in the upcoming years. The SSA revealed that the industrial sector is on the rise, and particularly to enhance the skillset within the construction sector, more courses /diploma in civil engineering, masonry skills and other allied skills will be required. For the service sector, since financial service activities is on the rise, skills and courses such as ‘financial markets employability’ and knowledge of commerce are needed to polish the skillset up to the expert standard. Moreover, the manufacturing sector also makes it pertinent to require labor for quality assurance purposes, so the products meet the customer requirements.

Sub-Sector	Recommended Courses
Construction of buildings	Civil Surveyors; Civil AutoCAD; Construction Technology (General Electrician); Heat Ventilation & Air Conditioning (HVAC), Plumber & Sanitary Installer; Electrical Wiring Technician; Steel Fixer; Aluminum & Steel Fabricator
Financial service activities, except insurance and pension funding	Financial Markets Employability, Diploma in Commerce

<b>Sub-Sector</b>	<b>Recommended Courses</b>
Manufacture of fabricated metal products, except machinery and equipment	Metallurgy Technician; Metallurgy & Welding; Sheet Metal Worker; Steel Making Technician; Metal fabricators; Steel Fixer and Molders; Aluminum & Steel Fabricator
Manufacture of rubber and plastics products	Rubber Molder (ATs)

## **6. INTERVENTIONS**

Sargodha region is an important locality in the province of Punjab. This is a strong agricultural base and a good foundation of industrial clusters is present in the region that can be graduated into large scale industry with the help of certain interventions and projects. For this purpose, the contemporary situation of the economy has been analyzed through visits. To constraints in development were analyze have with stakeholder's consultations and solution has been suggested. These interventions focused on infrastructural, technical, vocational, and overall upgradation of the region.

Through field visits the current situation of Sargodha region has been analyzed and several polices has been suggested that are classified into 4 categories:

- i. Soft or policy interventions for poverty alleviation (zero or nominal cost)
- ii. Industrial infrastructure development interventions
- iii. Interventions for common facilities
- iv. Technical Skill development

### **6.1. Policy Intervention for Poverty Alleviation**

#### **6.1.1. Significance of Policy Interventions:**

At a region or division level, certain policies without cost-effectiveness can be very impactful in terms of local and regional development. These policies need the supportive role of local administration and awareness to the public at large.

#### **6.1.2. Policy Attention Requirements**

##### *6.1.2.1. Entrepreneurship Clubs and Societies for Students:*

While working on Sargodha region industrial development plan, this study would like to focus on the culture of the entrepreneurial ship among the qualified youth. It is proposed that entrepreneurial clubs/societies may be formed at the regional universities level to prepare qualified youth to emerge as an entrepreneur instead of job seekers. These clubs will help to build an environment to train graduates to start their businesses and promote the culture of startups.

##### *6.1.2.2. Plantation of Dalbergia sissoo*

Secondly, the furniture and handicraft industry of the region depends on the wood of Dalbergia sissoo (Sheesham/Tali). Over the years the orchards/cultivation of these trees is depleting and now

the craftsman is buying the wood from far areas of Punjab and KPK. It is proposed that the plantation of Sheesham should be promoted in the local plantation drives.

#### *6.1.2.3. Business Development Center for Women*

The cultural and social practices of the region cannot be ignored while proposing the interventions considering this it is proposed that the Establishment of the Business Development Center for Women in Mianwali support women's entrepreneurship through enabling services (common platform for interaction, business development & marketing support, and awareness on regulatory requirements). Separate building for Center and stalls in Punjab Model Bazar. This facility will be a women's place where the skilled women will provide goods and services to women and district administration while staying in dedicated and fully equipped buildings.

## **6.2. Industrial Infrastructure Development Interventions**

### **6.2.1. Bhalwal SEZ**

Punjab Industrial Estate Developers & Management Company (PIEDMC) is an institute of Punjab for promoting the industrial sector. And, for the development of Industry in the Sargodha region, Bhalwal Industrial Estate has been established on 427 acres. This is located in a prime location between Salam and Bhera Interchange, which is only 15 km away from the Motorway. Moreover, its distance from the railway station is 7km and 132KGrid Station is 4km. The presence of this industrial estate at the center of the citrus-producing area is an additional benefit for potential investors.

Many famous industries have already done their investment in this region including Bestway Packaging (Pvt) Ltd, wonder bread, Shama Ghee, Sammi Pharma, and Oreal Ceramics. Furthermore, this SEZ can facilitate food processing units such as citrus grading jams, jellies, snacks, and cold storage. However, it also has the potential to support other industries like pharmaceutical, flour mills, rice husking, leather and paper board, PVC, Chipboard, and lite engineering units. Table 13 is depiction of land area distribution of this SEZ.

**Table 13: Land Area distribution**

<b>Sr. No</b>	<b>Description</b>	<b>Area (Acre)</b>
1	Total Area	427
2	Industrial Plots Area	297
3	Amenities/ Commercial Parks/ Parking offices	41.785
4	Estate	84.179

Other facilities available here are

- State of the art infrastructure
- Land is owned by PIEDMC
- Electricity distribution system and independent feeders are installed so this will be load shedding free zone
- Independent grid station of 50MW is also in a pipeline
- 10MMCFD gas connection is in pipeline
- Wide road networks (82Ft to 120Ft)
- Secure and gated estate;
- 100% complete separate sewerage disposal and drainage system; allocated space for CETP plant;
- Special tax benefits include 10 years of Income Tax Holiday and Exemption of tax on import of plant and machinery.

Also, 28.544 acre land has been allocated to around 17 different amenities such as banks, parking/truck stands, clinics, mosques, fire stations and grid stations.

Whereas, following table 14 is the current status of Industrial plot in this region:

**Table 14: Industrial Plots Status**

<b>Category</b>	<b>Total</b>	<b>Sold</b>	<b>Vacant</b>
0.5 Acre	117	101	16
1 Acre	167	92	75
2 Acres & Above	34	13	21
Total	318	206	112
<b>Colonization Status</b>	<b>Factories Under Construction/ Map Approval process</b>		<b>Factories in Production</b>
	5		3

Major trading sectors operating in this estate are food (19%), warehousing and packaging (15%), pharmaceutical (20%), plastic and PVC pipes (8%), ceramic (27%), and trade and services (6%). However, packaging, food, and pharmaceuticals units are under construction. This suggests that there will be different forward and backward linkages that will be developed in this region including distribution and retail, logistics, wholesaler, storage, and packaging. Labor in the region will also support the productivity in this region.



Figure 7: Bhalwal Special Economic Zone (SEZ)

### 6.2.2. Punjab Small Industrial Corporation

There is a presence of Industrial Estate in the Sargodha region. Moreover, this industrial estate has a total area of 51 Acres, 5 Kanal, and 15 Marlas. Its distance from the nearest cities is around 10 km. Also, the sewerage system is the means of disposal and drainage in this area. And, utilities like electricity, gas, and telephone are available in this region. The nature of its land is saline and the means of water is the PSIC water supply system. The possession of this estate is under Punjab Small Industries Corporation and is under the possession of the department. Moreover, there exists no nearest route to CPEC from this estate. However, engineering works, food products, glass products, marble products, oil products, plastic products, printing press, veterinary medicine, woodworking, dall mills, pharmaceutical, Warehouse, handicraft and salt industry (grinding and decoration pieces).

*Table 15: Sargodha Industrial Estate Plots Allocation*

<b>Plot Size</b>	<b>Allocated Plots</b>	<b>Vacant Plots</b>	<b>Total Plots</b>
4-Kanals	28	1	29
2-Kanals	36	0	26
1-Kanal	67	0	67
10-Marla	72	1	73
A/W. 3.5 Marla	50	0	50
<b>Total</b>	<b>253</b>	<b>2</b>	<b>255</b>

Regarding Table 15, it is deduced that this region has been fully colonized and reached its full potential. The existing infrastructure is almost 40 years old and has become obsolete. And, this suggests there is a need for up-gradation of infrastructure so that existing producers can have higher benefits. Whereas for new entrepreneurs, it is suggested to develop another industrial estate that can attract more investment in the region. On similar grounds, another industrial estate is suggested in Mianwali, Khushab, and Sargodha.

### 6.2.3. Suggested Interventions

In these interventions, the patterns for improvement of infrastructure for industrial development are suggested. Infrastructure is having two main types of Physical infrastructure and Social

Infrastructure. Physical infrastructure is based on facilities that directly benefit the economic production and distribution process. A few common examples of such facilities are Industrial estates, special economic zones, roads, telecommunication, technology, certified labs, transportation, and energy. These physical infrastructures encourage productivity and are an immediate source of boosting the economy in the short run. Whereas social infrastructure is relevant to the supply of services and the basic needs of society. Such infrastructure includes education, health, sanitation, housing, and sewerage sort of facilities. These amenities are also supporters of growth and produce outcomes in the long run.

#### *6.2.3.1. Significance of Infrastructural Interventions*

The development of both social and physical infrastructure terms is essential for the stability of the economy. Also, infrastructural support attracts new investors to the industry. Similarly, employment opportunities improve with improvement in infrastructure due to improvement in communication and mobility. Whereas, in the absence of such facilities, the investor is discouraged at the stake of further progress of the region.

From the analysis of the Sargodha region, it is accessed that there is a requirement for up-gradation of existing infrastructure and development of new ones.

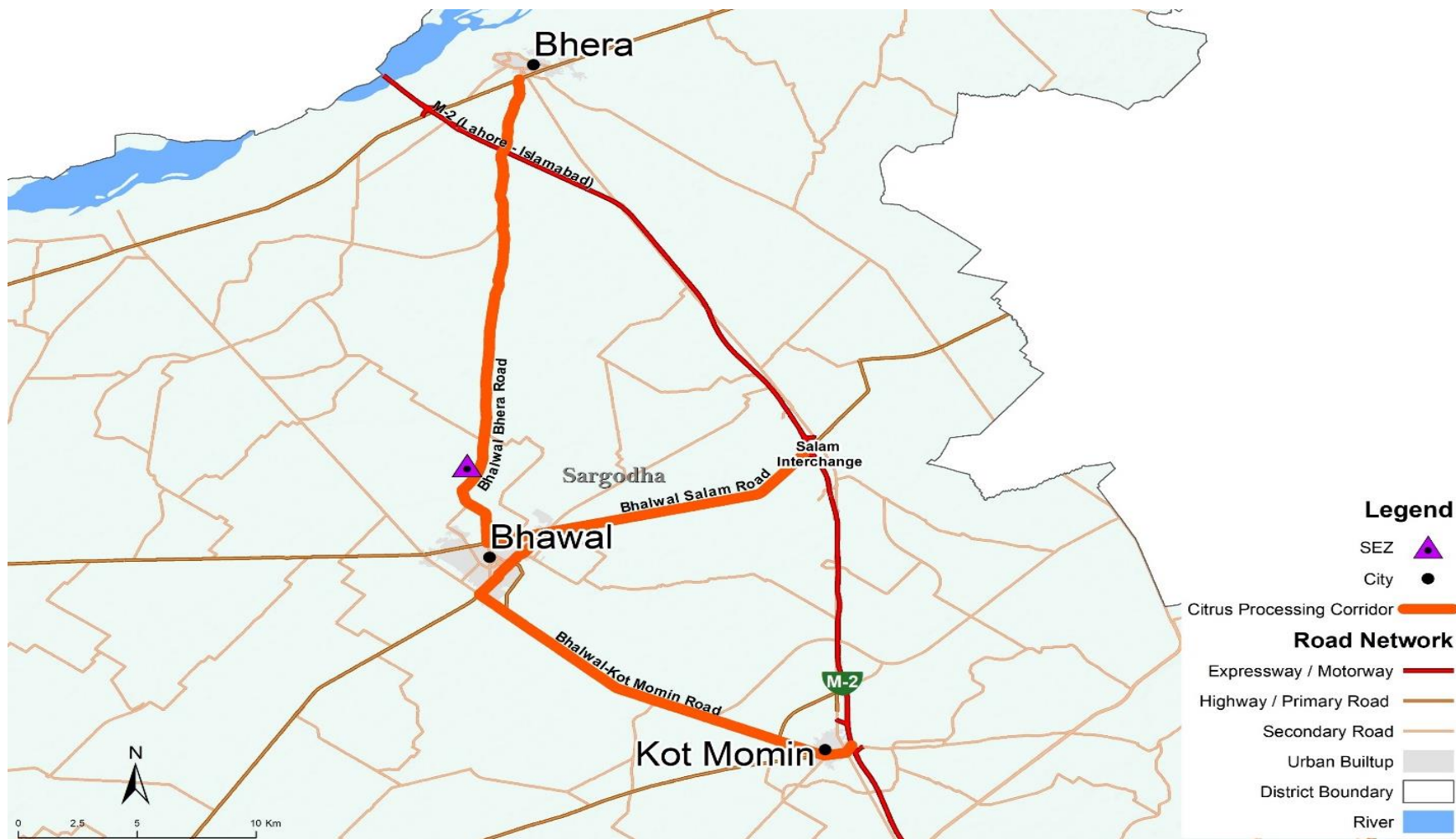
#### *6.2.3.2. Infrastructural Requirements of the Region*

These areas of intervention are identified through field visits. For instance, the industrial estate in the Bhalwal region is ready but due to electricity and gas connectivity issues, poor roads connectivity, and non-proper waste management facility, this industrial estate is facing issue of colonization. Therefore, Dualization of Bhalwal Bhera, Bhalwal, Salim, and Bhalwal Kot Momin Road, Provision of a 50 MW grid Station and gas connection to SEZ, Preparation of Solid waste management plan for SEZ, Buffer zone planning for SEZ, and Revamping roads and utilities infrastructure of PSIC Sargodha are main proposing interventions for this Bhalwal industrial estate. The introduction of these facilities increase will reduce lead time by attracting more investment.

Industrial zones benefit the economy by attracting more foreign investment, speeding up the flow of modern technology, providing more job opportunities, raising skill and management standards, and providing exporters a base for production in an environment free from import duties. Hence it

is suggested to Establish an Industrial Estate in Khushab, and Mianwali, PSIC II Sargodha on Government land, a dedicated IT park for IT development, and declare Silawali as a craft city and revamping & beautification craftsman shops along with provision of all amenities.

Another limitation in the growth of this region is the barriers to technical education attainment. Many students have to commute to other regions to attain the required education as they have no such facility available in their area. Therefore, the establishment of TEVTA institutes in skill-seeking regions will facilitate the process of learning. And, will provide opportunities to residents that are constrained due to the non-availability of resources. Through the establishment of institutes in these regions the process of learning and implementation will be eased. Also, required workers for the local industry can be produced in their relevant region. Hence, the Establishment of TEVTA institutes in Quaidabad, Shahpur, Nurpur thal, Silanwali, Kot channa, and Kundia is suggested.



*Map 11: Industrial Infrastructural Intervention*



Establishment of TEVTA institute in Quaidabad



Establishment of TEVTA institute in Kundia



Establishment of TEVTA institute in Shahpur



Establishment of dedicated IT park for IT development



Establishment of TEVTA institute in Nurpur thal



Establishment of PSIC Mianwali



Establishment of TEVTA institute in Silawali



Establishment of PSIC II Sargodha on Government land



Establishment of TEVTA institute in Kot Chandna



Establishment of PSIC Khushab

**Map 12: Proposed Interventions for industries**

### **6.3. Interventions for Common Facilities**

Small and cottage industry in any region is of enormous significance to the economy. These small units are the source of employment for the residents and contribute a significant portion to the GDP. Moreover, many similar units combine to form clusters as they have common demands and laggings in development. Therefore, it is beneficial for policymakers and the government to address them collectively to promote the next level of growth.

#### **6.3.1. Common Facilities Required by the Region**

Within the Sargodha region, several industries have not been able to progress due to a non-supportive environment. These requirements include R&D issues, certification constraints, financing facilities, non-availability of machinery or capital, shortage of skilled labor, higher cost of production, and non-competitiveness with foreign countries.

##### **6.3.1.1. Non-operational Institutes**

Furniture, electricity, and jewelry industry are three important industries in this region. All three industries have non-operational institutes present in the region and due to ignorance and lack of maintenance, these are not benefitting and leading to wastage of available resources and expensive equipment. By operationalizing these units, the existing industry will progress as required labor will be trained as per demand; research for innovation in the product line can be done; up-gradation of the overall industry will take place. Therefore, important interventions suggested for this region are the operationalization of the gem & jewelry Institute in Sargodha, the furniture institute of Pakistan, and electrical fitting.

##### **6.3.1.2. Unavailability of Production Materials**

The pharmaceutical sector suffers due to the non-availability of common ingredients and salts. Due to this, they have to import required products, and costs of production increase. Which is further translated into a higher price to consumers. Therefore, there is a need for the industry to establish a Research Center for an active pharmaceutical ingredient development center. These facilities will work to innovate required materials so that industry and the overall economy maximize their potential.

#### *6.3.1.3. Storage Facilities*

A constraint faced by the furniture industry is the non-availability of seasoned wood which causes a delay in orders and the market image is affected. Therefore, the establishment of a seasoning plant and wood bank for the furniture industry in Sargodha will preserve required raw material with maintained quality will give a boost to this industry.

#### *6.3.1.4. Community Center for Women*

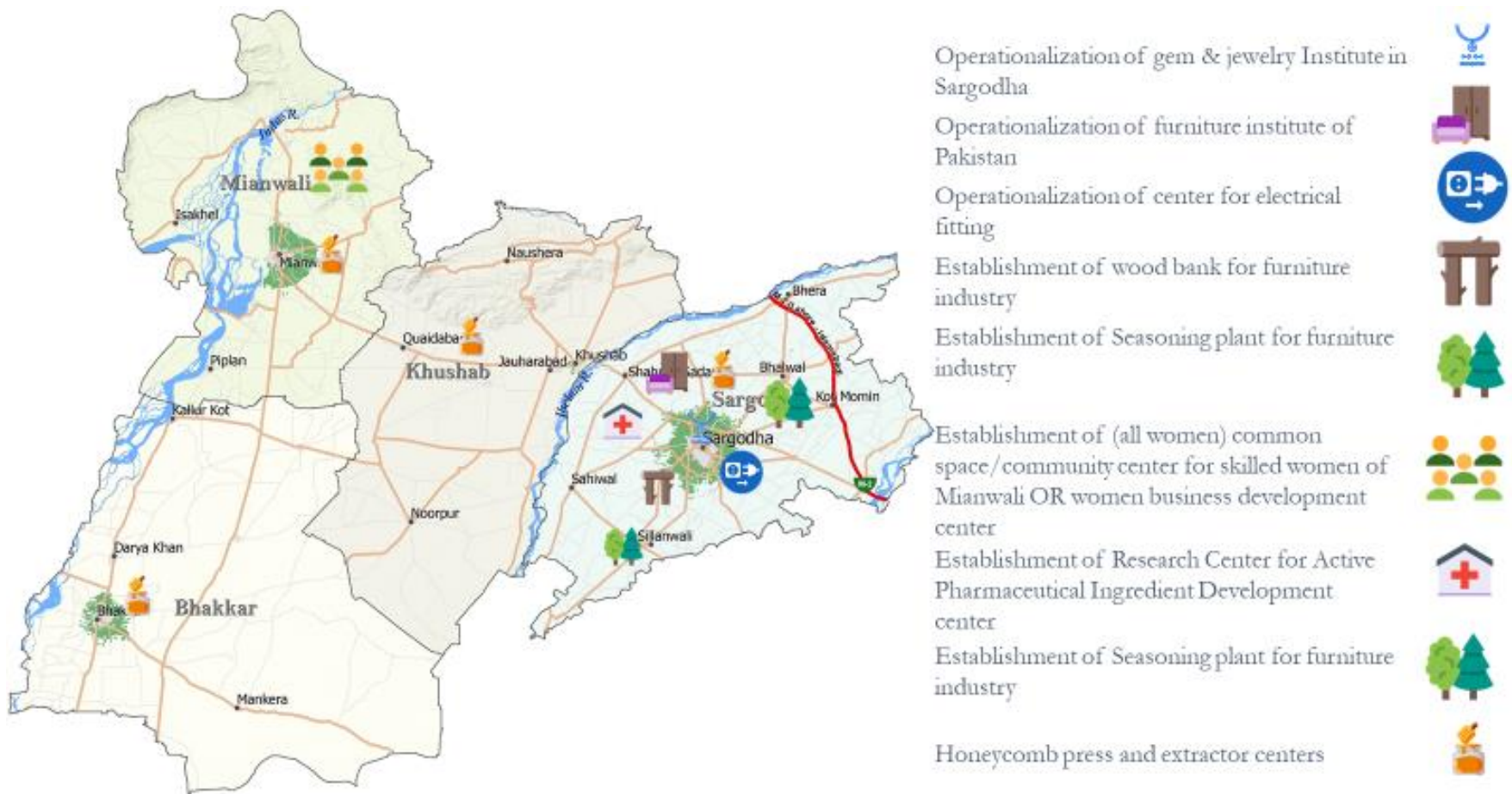
Women especially in Mianwali district are economically constrained. And for their empowerment, it is important to provide a common facility that provides the opportunity for women to learn and earn at the same time. So, the establishment of (all women) common space/community center for skilled women of Mianwali and a women's business development center will empower women by providing them with skill and economic assurance.

#### *6.3.1.5. Honey Comb Extractor*

It is also essential to encourage new entrants to the micro and cottage industry. For this purpose, small initiatives will attract investments and will create a supportive environment. To support this idea is suggested to the establishment of honeycomb press and extractor centers at the tehsil level in Sargodha. At the farm level, bee-keeping boxes will be given to farmers. They will keep those boxes for and will go to the nearest common facility when honey is ready for extraction and sell it. This will provide a good earn without any huge capital investment and to develop a honey cluster at the regional level. To provide this facility, the cost is minimal for this that will be borne by the government. Another benefit of this will be its help in pollination, orchards that have the presence of bees grow better and give timely production. It is linked to the agrarian economy and at the micro-level will benefit a household without any additional cost. Once this will develop as a trend or pattern in the region and honey will be supplied to the markets of Punjab. Then market forces will automatically attract processors in this region. And then there is a prospect of developing larger companies. Conclusively, beekeeping is a potential source of generating honey and provide earning opportunity. Through little training, individuals can be made skilled in this dimension. And will encourage also attract others this can be obtained through a minor level of investment.

#### *6.3.1.6. E-commerce and Marketing*

Similarly, the establishment of e-commerce training for Mianwali, Sargodha, Silanwali, and Bhakkar will enable individuals to learn contemporary skills. By doing this, they will be able to support almost all industries to represent local products at the international level by overcoming marketing constraints.



**Map 13: Common Facilities Interventions**

## **6.4. Technical Skill development**

For the progress of the region perseverance, development, and up-gradation of the current labor force is an essential component. With the up gradation of production techniques upgrading the labor force is also necessary. Therefore, transforming the structure of learning and training to encourage workers is also important. To benefit the local worker and industry these interventions are designed.

### **6.4.1. Technical Requirements of the Region**

#### *6.4.1.1. Updated Courses*

For the technical development of the labor force, it is important to offer them courses that have demand and acknowledgment in the market. For this purpose, the equivalence of CBT training courses with the previous streak of courses is suggested. This will benefit new employees entering the market to get jobs and will also create demand for these courses among enrolling students.









Also, declaring model institutes in each district of Sargodha (GCT Sargodha and GTTI Mianwali GCT Bhakkar). The state-of-the-art institute should be made in all districts that can be declared as model institutes and all other institutes can follow its footprint. This initiative will standardize the education level and quality will be maintained.

#### *6.4.1.2. Promotion of Existing Institutes*

Also, several existing institutes have a higher level of potential but are unable to exploit it. Hence, few initiatives can promote. Therefore, up-gradation of GVTI Women Mianwali to GTTI women, provision of land 30K for up-gradation of GVTI women, initiation of BS Technology in GCT Sargodha, provision of state-of-the-art and updated lab equipment in all institutes and revamping civil infrastructure of GTTI Mianwali are suggested. Within TEVTA institutes that have defined infrastructure, there is a lag in the infrastructure of other facilities that causes hindrance to learn. Therefore, it is required to provide relevant opportunities in facilitating the staff and students. The following are required facilities.

- Provision of multi-purpose halls and computer lab in GCT Sargodha, GTTI Mianwali, and GCT Mianwali
- Provision of 5 buses (1 GTTI Mianwali. 2 GCT Bhakkar, 2 GCT Mianwali)
- Provision of 14 classrooms and 10 labs for GCT Sargodha



- Equivalence of CBT training courses with previous streak of courses 
- Declaring a model institutes in each district of Sargodha (GCT Sargodha and GTTI Mianwali) 
- Provision of state-of-the-art and updated lab equipment in all institutes 
- Provision of land 30K for upgradation of GVTI women 
- Upgradation of GVTI Women Mianwali to GTTI women 
- Initiation of BS Technology in GCT Sargodha 
- Revamping civil infrastructure of GTTI Mianwali 
- Provision of 14 classroom and 10 labs for GCT Sargodha 
- Provision of 5 buses (Mianwali GTTI. 2 GCT Bhakkar, 2 GCT Mianwali) 
- Provision of multi purpose halls and computer lab in GCT Sargodha GTTI Mianwali 

**Map 14: Technical Skill Development Interventions**

## 6.5. Assessment of Available Amenities

The following table 16 shows of current situation of in all districts of Sargodha division. The ones in green reflects good situation, blue means satisfactory and red mean unsatisfactory condition in the district of relevant facility. This provides us a quick assessment for policy attention.

**Table 16: Availability of Facilities**

	Sargodha	Khushab	Mianwali	Bhakkar
Infrastructure Facilities	●	●	●	●
Electricity	●	●	●	●
Gas	●	●	●	●
Roads	●	●	●	●
Project Finances	●	●	●	●
Land Availability	●	●	●	●
Tax rebates	●	●	●	●
Patent and IP rights	●	●	●	●
Machinery availability	●	●	●	●
Accessibility to raw Material	●	●	●	●
Market Knowledge	●	●	●	●
Availability of finance	●	●	●	●
Access to domestic markets	●	●	●	●
Access to international markets	●	●	●	●
Regional Competitiveness	●	●	●	●
R&D facilities	●	●	●	●
International Certifications	●	●	●	●
Availability of vocational training	●	●	●	●

Availability of Skilled labor	●	●	●	●
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## 6.6. Proposed Interventions

Following table 17 explains the list of all interventions suggested in this region for that are based on field visits and stakeholder consultations.

**Table 17: List of Proposed Interventions**

S. No.	District	Sector	Type	Project Name	Total Cost in PKR Million
1	Mianwali	Industries	Short Term	Establishment of Industrial Estate in Mianwali	PKR 1500 Million
2	Mianwali	Industries	Medium Term	Establishment of TEVTA institute in Kot chanana	
3	Mianwali	Industries	Medium Term	Establishment of TEVTA institute in Kundia	
4	Mianwali	Industries	Medium Term	Establishment of (all women) common space/community center for skilled women of Mianwali OR women business development center	PKR 500 Million
5	Mianwali	Industries	Short Term	Establishment of Honeycomb press and extractor centers at tehsil level in Mianwali	PKR 20 Million
6	Mianwali	Industries	Short Term	E-Commerce trainings for Mianwali,	PKR 10 Million
7	Mianwali	Industries	Short Term	Declaring a model institutes in each district of Sargodha (GCT Sargodha and GTTI Mianwali GCT Bhakkar)	
8	Mianwali	Industries	Medium Term	Provision of state-of-the-art and updated lab equipment in all institutes	PKR 800 Million
9	Mianwali	Industries	Short Term	Revamping civil infrastructure of GTTI Mianwali	PKR 300 Million
10	Mianwali	Industries	Short Term	Provision of multi purpose halls and computer lab in GCT Sargodha, GTTI Mianwali and GCT Mianwali	PKR 10 Million
11	Mianwali	Industries	Medium Term	Provision of 5 buses (1 GTTI Mianwali, 2 GCT Bhakkar, 2 GCT Mianwali)	PKR 15 Million
12	Bhakkar	Industries	Short Term	Declaring a model institutes in each district of Sargodha (GCT Sargodha and GTTI Mianwali GCT Bhakkar)	
13	Bhakkar	Industries	Short Term	Establishment of Honeycomb press and extractor centers at tehsil level in Sargodha, Khushab & Mianwali	PKR 20 Million

S. No.	District	Sector	Type	Project Name	Total Cost in PKR Million
14	Khushab	Industries	Medium Term	Establishment of Industrial Estate in Khushab	PKR 1500 Million
15	Khushab	Industries	Medium Term	Establishment of TEVTA institute in Quaidabad	
16	Khushab	Industries	Medium Term	Establishment of TEVTA institute in Nurpur thal	
17	Khushab	Industries	Short Term	Establishment of Honeycomb press and extractor centers at tehsil level in Khushab	PKR 20 Million
18	Sargodha	Industries	Short Term	Dualization of Bhalwal Bhera, Bhalwal, Salim and Bhalwal Kot momin Road	PKR 240 Million
19	Sargodha	Industries	Short Term	Provision of 50 MW grid Station and gas connection to SEZ	
20	Sargodha	Industries	Short Term	Preparation of Solid waste management plan for SEZ	PKR 15 Million
21	Sargodha	Industries	Short Term	Buffer zone planning for SEZ	PKR 15 Million
22	Sargodha	Industries	Medium Term	Revamping roads and utilities infrastructure of PSIC Sargodha	PKR 50 Million
23	Sargodha	Industries	Medium Term	Establishment of PSIC II Sargodha on Government land	PKR 1500 Million
24	Sargodha	Industries	Medium Term	Establishment of dedicated IT park for IT development	PKR 500 Million
25	Sargodha	Industries	Short Term	Declaring Silawali as a craft city and revamping & beautification of crafts man shops	PKR 75 Million
26	Sargodha	Industries	Medium Term	Establishment of TEVTA institute in Shahpur	
27	Sargodha	Industries	Medium Term	Establishment of TEVTA institute in Silanwali	
28	Sargodha	Industries	Short Term	Operationalization of gem & jewelry Institute in Sargodha	PKR 10 Million
29	Sargodha	Industries	Short Term	Operationalization of furniture institute of Pakistan	PKR 10 Million
30	Sargodha	Industries	Short Term	Operationalization of center for electrical fitting	PKR 10 Million
31	Sargodha	Industries	Medium Term	Establishment of Research Center for active pharmaceutical ingredient development center	PKR 100 Million
32	Sargodha	Industries	Medium Term	Establishment of wood bank for furniture industry in Sargodha	PKR 250 Million
33	Sargodha	Industries	Medium Term	Establishment of Seasoning plant for furniture industry	PKR 250 Million
34	Sargodha	Industries	Medium Term	Establishment of wood bank in Silanwali	PKR 250 Million

S. No.	District	Sector	Type	Project Name	Total Cost in PKR Million
35	Sargodha	Industries	Short Term	Establishment of Honeycomb press and extractor centers at tehsil level in Sargodha, Khushab & Mianwali	PKR 20 Million
36	Sargodha	Industries	Short Term	E-Commerce trainings for Sargodha, Silanwali and Bhakkar	PKR 10 Million
37	Sargodha	Industries	Short Term	Promotion of cultivation of Dalbergia sissoo (Tali) to promote and secure wood and cottage industry	PKR 10 Million
38	Sargodha	Industries	Short Term	Establishment of business development center for handicrafts in Silanwali	PKR 500 Million
39	Sargodha	Industries	Short Term	Equivalence of CBT training courses with previous streak of courses	
40	Sargodha	Industries	Short Term	Declaring a model institutes in each district of Sargodha (GCT Sargodha and GTTI Mianwali GCT Bhakkar)	
41	Sargodha	Industries	Short Term	Upgradation of GVTI Women Mianwali to GTTI women	PKR 100 Million
42	Sargodha	Industries	Short Term	Provision of land 30K for upgradation of GVTI women	
43	Sargodha	Industries	Short Term	Initiation of BS Technology in GCT Sargodha	PKR 5 Million
44	Sargodha	Industries	Short Term	Provision of multi purpose halls and computer lab in GCT Sargodha, GTTI Mianwali and GCT Mianwali	PKR 10 Million
45	Sargodha	Industries	Short Term	Provision of 14 classroom and 10 labs for GCT Sargodha	PKR 10 Million

## **7. SILANWALI WOODEN CRAFT CITY**

### **7.1. Handicraft Sector**

Handicraft sector is a representative of a country's value tradition and culture and also highlight skill within of nationals. These clusters in any country are also contributing economically. There are several reasons why these items are purchased such as artistic, creative, cutlery, traditional, social symbol and significant. An interesting fact about this industry is this skill is transferred between generations and contributes to national heritage. Furthermore, this sector requires a little investment and provides a high ratio of value addition. Also, it is a source of employment many craftsmen in semi urban or rural localities. It has the potential to generate new job and attract foreign revenue through exports. These industries are usually labor intensive. It is a cottage industry. Also, there are several advantages or benefits for attracting investment in this sector such as with a very negligible amount of capital is required for a startup, one has the ability to manage his/her own work/ business and flexibility of working hours. Moreover, it has the potential to improve living standard of its labor or working class and also have spillover effects in other segment of the economy such as increased utilization of local raw material. Progress of this sector also suggests that income does elevate in rural or tribal area which results in lower level of migration from rural to urban areas. This upgradation leads to improvement of social equilibrium, national identity preservation and ethnic heritage.

With development of technology this sector is suffering in international markets as the demand for innovative products is increasing. It is the responsibility of the government to give attention to this sector and provide privilege to this segment. Through globalization this sector has the potential to provide opportunities and challenges to this sector. However, through better governance, strategies, sufficient and accessible finance, competitive environment, better trade policies and suitable infrastructure will upgrade this sector of economy.

### **7.2. Wooden craft in Silanwali**

The handicrafts sector in Pakistan has historical roots that date back to Indus Valley Civilization. Several regions of Pakistan (such as Multan for pottery and Chiniot for wooden furniture) have gained international significance in this sector. And, Silanwali is one of those regions that are renowned for wooden handicrafts with geometric patterns and oriental designs.

### **7.2.1. Economic Significance:**

Economically this sector has immense significance. This cluster has 169 micro-units with 599 workers, 29 small units with 218 workers, and 9 medium units with 203 workers. Furthermore, there are 17 showrooms and 41 suppliers in this cluster. These products are usually used for decorative purposes. The target buyer of this cluster is mostly from the high-income class.

Furthermore, it supplies its goods to other cities, provinces, and countries. Mainly the products from this sector are exported to Australia, Belgium, France, Germany, Holland, Italy, Saudi Arabia, Spain, Sweden, Turkey, USA, and United Kingdom. Whereas, the main competitors are China, Indonesia, India, Korea, Malaysia, the Philippines, and Turkey.

### **7.2.2. Constraints**

#### *7.2.2.1. Non-proper packaging and branding:*

Silanwali handicrafts have demand constraints in the international markets. This lower demand is due to unbranded products with little or no information, and importers hesitate in buying these products. Hence, it leads to lower offered prices than competitors. Simultaneously, the manufacturer is discouraged due to lower demand in the market.

#### *7.2.2.2. Certification and Quality Standards:*

Additionally, artisans do not meet certification and quality standards which affects the overall export of this segment. However, it is generally sold on the international market when vendors themselves visit international exhibitions and attract targeted customers. The strategy used for exporting these items is to transport them along with other regular trading items other than handicrafts.

#### *7.2.2.3. Lack of Exhibitions:*

Also, the inefficiency of the system is not encouraging the growth of exports here. Another process followed to gain order in this sector is through exhibitions. Interior designers and relevant buyers visit these exhibitions; observe the capability of the manufacturer; and place orders. Therefore, exhibitions can increase the potential of this segment. But due to non-involvement in such activities sellers miss out on potential orders.

#### 7.2.2.4. *Non-Familiarity with E-commerce:*

Furthermore, a larger component of the market share can be captured through online selling. But due to lower international demand producers of this sector are ready to invest in this dimension.

#### 7.2.2.5. *Inefficient Machinery:*

The strength of this region is its skilled labor that is found in abundance.

Also, inefficient tools and machinery are used for production. Thus, leading to a compromise on the quality of the final product. Therefore, by incorporating better quality tools and production methodologies, the quality of the final product can be improved by decreasing the cost of production.

#### 7.2.2.6. *Technological Constraints:*

Several countries such as India, Indonesia, and Malaysia have developed the handicrafts sector into an industry. However, this market in Pakistan is still in the developing stages and has not attained the status of the industry. And, this is due to several laggings such as lack of education, technological backwardness, unstable prices of raw materials, and lower demand in international markets. Therefore, the up-gradation of this sector is necessary for the overall improvement of this region.

### 7.3. **Proposed intervention for sector development**



### **7.3.1. Craft shops**

Due to non-proper working conditions, this sector is not exploiting its potential and it becomes necessary to improve working conditions. Subsequently, these shops will be particularly designed to provide craftsmen with a common facility to operate their production activities. And these shops will have standardized architecture and will ensure sustainability in the production process.



### **7.3.2. Seminar Rooms**

Lack of coordination between different stakeholder and production stages lead to inefficiencies. And, these seminar rooms will serve as a common facility and can be used for multiple purposes such as training and other business events and meetings.



### **7.3.3. Exhibition Halls**

Non-representation of products to the potential buyer is the main reason for lower sales. The hall will be used to conduct local, national, and international level exhibitions and will provide an opportunity to strengthen this sector.



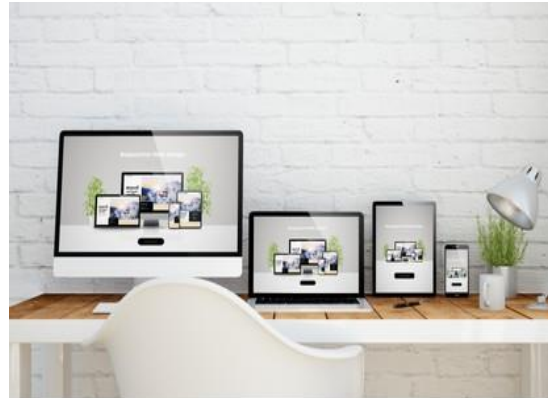
### 7.3.4. Art Gallery

A Common Display Center That Exhibits All Sorts of Products and Depicts The Skill Of Artisans Will Develop Recognition In This Sector. Through This Platform Product Differentiation and Specialization will Be Depicted.



### 7.3.5. Design Center

Upgradation and development of designing essential demands for sustained growth in this sector. And, this center will operate to design new products. By doing this, more customers will be attracted and higher profits can be attained.



### 7.3.6. Common Studios

Another constrain face by this sector in international markets is non-standardized production and packaging facilities. Hence, these centers will have the responsibility to work on packaging, marketing, and branding of products according to international standards. And will assure standardization in all these dimensions.



### 7.3.7. Wood Bank

Preservation of seasoned wood is a constraint for the manufacturing of several products. This is because certain qualities are not available other than their respective seasons. Therefore, this wood bank will preserve the wood and will provide an opportunity to utilize it in the non-production seasons. Hence, stability of the sector all around the year will be assured.



### 7.3.8. Tools Bank

Due to the non-availability of certain tools, particular products and designs cannot be produced. Therefore, this tool bank will have a job to assure the availability of modern equipment that is compatible with international markets so that the final good does not face discrimination.



### 7.3.9. E-Commerce trainings

The major constraint faced by this sector is non-familiarity with e-commerce which leads to a lag in sales. This center will provide training to conduct business activities on the online forum and prepare the labor force for this purpose.



**Table 18: Silanwali Craft Village Plan**

Module	Description	Cost	ST	MT	LT
		Rs. Mn	0-3 years	3-5 years	5-10 years
Craft Shops	Shops of craftsmen	25	X		
Seminar Room	Seminar rooms for trainings and community meetings	5		X	
Exhibition Hall	Exhibition hall for yearly exhibitions	20			X
Art Gallery	Gallery for artists to display their work	10	X		
Design Center	Innovation	25	X		
Common Studios	Packaging, Marketing, branding	20		X	
Wood Bank	Storage for seasoned wood	30			X
Tools Bank	Modern tools facility	10		X	
E-Commerce trainings	Business and marketing trainings	10	X		
<b>Total</b>		<b>155</b>			

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