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# Syndicate Research Report

# Scope & Development

# Of

# Industrial Clusters in Pakistan

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# Introduction

## What Industrial Clusters Are?

Industrial clusters are defined by Potter, 2000, as "a geographically proximate group of inter-connected companies and associated institutions in a particular field, linked by commonalities and complementarities."

A **business cluster** is a geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular field. Clusters are considered to increase the productivity with which companies can compete, nationally and globally. In urban study, the term agglomeration is used.

Clusters play a potentially important role in a pro-poor agenda by creating jobs and promoting incomes for the poor, especially for marginalized segments of the labour force, such as women, migrants and those with low levels of education and formal training and by helping poor entrepreneurs mobilize limited resources. These clusters provide avenues for collective actions that enhance the well-being of poor communities and they furthering wider social and developmental goals. But this is not an automatic outcome. Its development requires an explicit consideration within cluster development strategies.

Clusters matter because geographical agglomeration can potentially help small firms overcome constraints associated with their small size, promote their technological development, and enhance their ability to compete in local and global markets.

Industrial clusters can also make a potentially important contribution to this agenda. Not only do they enhance the ability of small firms to compete in global markets; they can also promote sustainable employment and incomes and thus better prospects for the working poor.

Industrial clusters are very important in developing countries, where employment in manufacturing sector is most common form of employment and they are predominant labour intensive industrial clusters. Problems of this kind of industrial sector become more sharp in the perspective of globalization.

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This term **industry cluster**, also known as a **business cluster** or **competitive cluster**, was introduced and the term cluster popularized by Michael Porter in *The Competitive Advantage of Nations* (1990). The importance of economic geography, or more correctly geographical economics, was also brought to attention by Paul Krugman in *Geography and Trade* (1991). Cluster development has since become a focus for many government programs. The underlying concept, which economists have referred to as agglomeration of economies, dates back to 1890, the work of Alfred Marshall. Clusters as a form of economic development require strategic choices by government agencies as it was the idea behind the developing industry in clusters. Governments intervene in the process of this development and should intervene to monitor the process of cluster development.

## Types of Clusters:

Clusters are divided into two types according to their functions, which are:

***(1) Value chain***

***(2) Labour pools***

***Value Chain*** is the most common form of business clusters. Value chains are groups of businesses that buy and sell from each other. Examples of value chains include auto manufacturers and part suppliers; food processing facilities and farmers; timber stands and sawmills; hospitals and pharmacies etc."

***Labor pool*** are clusters based on occupational categories, allowing firms who use similar types of occupations and worker skills to draw from a larger pool of potential employees. Input-output models are one technique for identifying the existence of these clusters.

## Promoting Clusters as agent of development:

**How do industrial clusters benefit businesses?**

In order to promote clusters as a feasible development option, a community must first identify potential clusters in its region. Once clusters have been identified, communities need to decide if the support infrastructure is in place to fully complement the value of a cluster. Community and business/industry leaders, along with education providers, will be critical players in promoting clusters. The most important role is of government. Governments must use the techniques like incentive providing and setting up all the rules and regulations and necessary restrictions for these potential clusters in their region. Information about clusters is critical in crafting intelligent policies. Clusters, especially the developing clusters, are easily identifiable, while the other for instances emerging clusters are less evident. It often depends on their size and age of the cluster. Role of government is also very important in deciding if the support infrastructure is in place to fully complement the value of the cluster. Training facilities, business services, physical infrastructure, work force skills and availability should all be assessed and provided. A good mix of skills is also necessary to increase cluster productivity. This

information can further be used to create new options. Physical infrastructure will most likely require cooperation and funding from state or federal authorities. Cluster identification and information can be used to argue the case for targeted infrastructure investments. Geographical proximity also creates possibilities for development of a cluster. Industrial or business clusters are based on the physical proximity of firms in one area or region. Some of the experts consider this proximity as unhealthy, leading to serious competitive pressures. In fact, research and real world experience indicate that industrial clusters are beneficial for both firms and the communities where they exist. The theory behind the benefits of industrial clusters is based on economies of scale, technology transfer and the availability of human capital. As firms physically congregate in one region, spillovers of knowledge, labour and technology occur. These spillovers lead to increased productivity and reduced costs for all firms in the region. There are *four* major sources of productivity and cost benefits that can be linked to industrial clusters: (1) *access to inputs and infrastructure* (2) *labor and human resource pooling* (3) *access to information and performance measures* and (4) *complementary products*. These benefits occur both directly and indirectly to firms within a regional cluster. However the promise of higher productivity, wages and incomes must be balanced against the risks of economic dependence on linked industries.

# Research Design

## Problem Statement:

Focus of study is about development of industrial clusters in Pakistan. How did these clusters develop in that particular area? What were the factors contributed to the development of these clusters? What effects do these clusters bring in the social and economic life of the people of that area?

## Methodology:

Research mythology that is adopted for this particular research is to study different industrial clusters in Pakistan. The research is theoretical in nature and **Exploratory Research Model** is used for facts findings. Sources of **Data Collection** include books, research journals, monthly journals, internet and field visits.

## Variables:

The Independent and Dependent variables for the syndicate project are as following:

***Independent Variable***:

- Development of industrial clusters

***Dependent variable:***

- Factors contributed to this development
- Effects of this development upon life of the people of that area

## Population/Sample:

Scope of population of this syndicate research is all the industrial clusters of Pakistan, whether formally established by Government or self established. A diverse sample is drawn out of this population. Following ***Industrial Clusters*** are taken as sample for the purpose of this research:

1. **Faisalabad Industrial Cluster**
2. **Marbel Industry, NWFP**
3. **Qasoor tannery Industry**
4. **Gujranwala Industrial Cluster**
5. **Wazirabad Industrial Cluster**
6. **Gujrat Industrial Cluster**
7. **Sialkot Industrial Cluster**

# Faisalabad Industrial Cluster

District Faisalabad is a district in the flat plains of northwest of province Punjab, between longitude 73°74 East, latitude 30°31.5 North. It covers total 1,280 $km^2$ (494.2 sq mi) area. Faisalabad is the third largest city in Pakistan after Karachi and Lahore. In the 1998 census the city population was recorded as 2,009,000, and it is growing at a rate of 2.13% per annum. Its population is estimated 5,080,878 people now in 2010. Foundation of the city was laid in 1880 and it was formerly known as **Lyallpur**. (Data released by City District Government, Faisalabad). Faisalabad is also the site of the prestigious University of Agriculture, founded in 1909.

It is an important industrial centre west of province Punjab. The city is connected with a highway, main roads and railway junction, which have played an influential role in the development of Faisalabad's trade and economy. Expanding transport network includes newly-built motorway (M-3) and highways to Lahore, Multan, Sargodha and Islamabad/Rawalpindi. The city has expanded production of cotton, wheat, vegetables, and fruits, which form 25% of Pakistan's exports. The city is also an industrial centre with major railway repair yards, engineering works, and mills that process sugar, flour, and oil seed. Industrial production include super phosphates, cotton and silk textiles, hosiery, dyes, agricultural equipment, and ghee (clarified butter) (City District Government, Faisalabad). There are numerous textile mills, engineering units and chemical and food processing units. Other industries include hosiery, carpets, rugs, nawar, lace, printing and publishing, and pharmaceutical products. There are also several thousand household industries, including some 60,000 power loom factories which

constitute informal economy of the city. Local companies include Sitara group, Manno group (Rafhan foods), Crescent group, and Ibrahim group.

## Industry of Faisalabad:

Faisalabad is one of the largest industrial cities of Pakistan and its **TEXTILE** Industry which specializes in export-oriented manufactured goods is the flaming fame of the city. A *Pricewaterhouse Coopers study* released in 2007, surveying the 2005 GDP of the top cities in the world, calculated Faisalabad's GDP (PPP) at **$27 billion**. The city was third behind Karachi ($55 billion) and Lahore ($28 billion). Faisalabad's GDP is *projected* to rise to $54 billion in 2020 at a **growth rate of 6.0%,** higher than the growth rates of 5.8% and 5.9% predicted for Karachi and Lahore. (UNIDO, www.unidoresearch.com). Textile sector is providing livelihood to more than 10 million farming families. It also accounts for 40% of the industrial employment. , the textiles and garments exports accounted for more than 50 per cent of our exports during the last financial year (2008-09).

## Size of Textile Industry of Faisalabad:

The textile industry of Faisalabad constitutes more than 70% of the textile export market of Pakistan, which itself forms 68% of total exports from Pakistan. This makes Faisalabad's share of total exports from Pakistan more than 45% (Ministry of Industries, Pakistan, 2009). It is 4th largest producer of cotton and 3rd largest user of cotton. Yet it is 12th in terms of international trade, which means much of its advantage is lost in low value added semi-manufactured exports. (Ministry of Textile, 2009)

## Economic Indicators of textile Industry of Faisalabad:

Historically, Pakistan's textile industry and clothing sector has always been a major contributor to the *foreign exchange* earner and still contributes about 55% to the total export proceeds (Mirza Rohail, 2009). The Economist reports that Pakistan is the 4th largest *producer of cotton* in the world and the 6th largest *importer* of raw cotton, the 3rd largest *consumer* of cotton, and the 1st largest exporter of cotton yarn. Over 1.3 million farmers, out of total of 5 million are involved in cultivation of this crop. According to official statistics released by Federal Bureau of Statistics (FBS), Textile sector is contributing 62% of its *GDP share* for textile. The top *buyers* of Pakistani textile goods are: USA, EU, Gulf region, UK, Hong Kong, Japan, Korea, Saudi Arabia, Italy, Turkey, Germany, Norway, France, Canada, Sweden, Australia, etc. Country's total textile machinery imports are $438.270 million during the last fiscal year of 2008, over the import of $502.898 million in fiscal year 2007, depicting a decrease of $64.6 million in the fiscal year 2008.

## Revenue Generation from Faisalabad Industrial Cluster:

According to FBR Year Book (2008-2009), Gross Tax collection from RTO/LTU Faisalabad was 13,850 million out of which 363 million was refunded. Net collection was 10,600 million in the year 2008-2009 (Pg. 20). **Sales Tax** collected from Regional Tax Office, Faisalabad was Rs. 2,342 Million, with the growth rate of 17.7 percent and its total share in total revenue of FBR was 1.9% (Pg.51). **Income Tax** collected from RTO/ LTU Faisalabad amount to 10,600 million, with the growth rate of 55.1 % in the year 2008-2009 (Pg.20). **Federal Excise Duty** collected from Faisalabad RTO was 908 million with negative growth rate of 0.3%. Share

of this chunk of revenue was 1.1% (Pg.84). Faisalabad collectorate collected Rs. 559 million **Custom Duty** in financial year 2008-2009. (FBR yearbook, 2008-2009).

## Performance of textile industry, Economic Survey of Pakistan, 2009:

According to **Economic Survey of Pakistan, 2009**, Pakistan is the 4th largest cotton producer and 3rd largest cotton consumer. The textile and clothing industry has been the main driver of the export. Textile industry, for the last 50 years, is largest in terms of foreign currency earnings and job creation. Although textile industry and especially Faisalabad Textile Industry, nourished under official patronage but now its performance is declining in the post-quota regime. Its share in exports has declined from 66 percent in 2004 to 53.7 percent in financial year 2008-2009. The Textile Industry in Pakistan has not been able to reap all the benefits of post quota regime as compared to other regional competitors. China, India and Bangladesh are posing tough challenge by virtue of their competitiveness. Some subsectors of Textile Industry have suffered due to the new trade development, towards cotton yarn, cotton cloth; bed-wear, garment and knitwear sectors. Textile industry is a pre-dominantly export oriented industry and about 75 percent to 80 percent of total Produce of Cotton and Synthetic Textiles are exported in the from of Yarn, Fabric, Readymade Garments, Bed Wear & Made Ups. The year 2008-09 was a dismal period in a way since the industry was confronted with a host of problems. The recent global economic crisis had adversely effected the trade activity. The **impact of globalization** is apparent on both demand and supply sides of the trade equation. However, global supply capacities have exceeded more than demand in recent years. ***Domestically,*** the increase in cost of utilities, (Power, Gas, Transport, and Petrol) had a deep impact on production feasibility thus forcing the industry to reduce its sales. Resultantly all competing countries are making high sales

to sustain their market share. This has also affected Pakistani Textile Industry. Textile Industry has made an investment of about 7.5 billion US$ during the last ten years (1999-2009. Total investment when divided in various sub sectors of textile industry, indicates that 50.2 percent in spinning sector followed by 17 percent in textile processing, 15 percent in weaving while the investment in other sectors namely like knit wear, made ups and synthetic textile is 7.02 percent, 4.71 percent and 5.76 percent respectively. This investment includes both investment through bank loan as well as own sources. Textile machinery worth US$ 0.4 billion has been imported during the current financial year. Import of textile machinery has shown decreasing trend since 2004-05. During the current financial year textile machinery as per previous trend posted a negative growth of 46 percent against the same period last year. *(Source: Federal Bureau of Statistics, Economic Survey of Pakistan)*

## Reasons of poor performance of Textile Industry of Pakistan:

A variety of reasons explain the poor state of our textiles sector. Machinery and technology has not kept pace with world standards. Infrastructure problems have increased, especially power, gas and clean water, available skills are deficient, high degree of fragmentation mars efficiencies, uneven growth of value-chain undermines balanced development of the sector, external restrictions such as quota and restricted access, limited opportunities and absence of a well defined policy framework created uncertainties and promoted haphazard development of the sector. Presently, it is converting one bale of cotton into $1000, whereas other textile industries of the world, its competitors are converting it to up to $4,000. First textiles policy has set a target to increase this rate of conversion from $1000 to $2000 during the period 2009-14. This will require increasing the level of exports to $25 billion by the end of the policy period.

## Shifting from Labour extensive to Technology extensive industry:

**Government vision 2005-2010**: To overcome global competition, the Pakistani government in 2006 approved a "Technology-based Industrial vision and strategy for socio-economic change" which called for technology up-gradation, human resource development, and establishment of a fully integrated chemical industry in the country.

## Trade policy 2009-2014 & Faisalabad Textile Industry:

The Trade Policy 2009-2014 is the textile focused trade policy of Pakistan. Interests of all the stakeholders, including industrialists, exporters, investors, State Bank of Pakistan and Ministries of Finance, Industries, Commerce, Agriculture, Planning and Investment, are kept in consideration and their suggestions have been incorporated in this policy. Textile is the main stay of economy and exports of Pakistan. In Trade Policy following initiatives have been taken to promote textile industry:

- Cross-cutting Issues
- Textiles Investment Support Fund (TISF)
- Technology Up-gradation Fund (TUF)
- Infrastructure Development
- Skills Development
- Standardization
- Zero Rating of Exports
- Rationalization of Tariff Structure
- Removing Regulatory Bottlenecks

- Market Access
- Marketing Support
- Export House Scheme
- Marketing Insurance Scheme
- Information and Communication Technology

# Marble Cluster of NWFP

The term marble, scientifically speaking, is a "crystalline compact variety of metamorphosed limestone consisting primarily of calcite (CACO3), dolomite (CaMg) (CO3), or a combination of both mineral." Marble sector is one of the most important sectors in Pakistan, which provides employment opportunities to the people as well as contributes a substantial share to the economy of the country. Pakistan is endowed with extensive geological potential. However, like other developing countries, it has not been able to promote the sector and sustain its growth. The country possesses not only large deposits of marble, onyx and granite, but their quality is also very good. Marble deposits are found in the northern parts of the North West Frontier Province and Balochistan.

Marble is one of the valuable natural resources of North West Frontier Province (NWFP). Vast reserves are found in different parts of the province. Marble reserves constitute about 97 per cent of the country's total deposits. Wide varieties of marble are found in Buner, Swat, Mardan, Nowshera and Malakand agencies---- of the province as well as in federally administered area Mohmand and Khyber Agencies. The marble outcrops vary from 1-5 km in extension with maximum thickness of about 250-300 meters. The petrography studies reveal that these marbles have smaller amount of impurities and are of good quality, the colour of the marble ranging from white to black and are fine to medium grained. Coarse-grained verities are also common. Buner is the major cluster of the marble having the largest deposits. Bampokha marble deposit has the best quality marble and is supplied to different parts of the country. Khyber Agency in FATA has quality marble with local name "Mullagori". In NWFP other varieties of marbles are Sunny Grey and Badal that are also commonly used in construction. Extensive deposits of marble are

found in the Chitral district. Three types of marble have been identified in Buner. It includes the White, Grey and Black, while in Nowshera pink color marble is famous for its marketable value.

## Types of Marble in NWFP:

Of the majority of marble colours traded in the international markets, the White marble has universal demand. Commonly known colors of marble in the Bunir District are white, grey, yellowish brow, dark grey and reddish brown. The total production capacity of all types of marble in Buner is approximately 300 tones per day depending the working condition. Nowshera marble is pinks with streaks of white, grey, red and brown color; Swabai marble is light gray to white with pink, brown with green patches; Swat, Shangla, malakand agency and Khyber marbles are pure white and Chitral Marbles ranging from white to grey and Black. The total production capacity of these deposits excluding Buner is approximately 45% of the total deposits of the country

## Valuation of Marbles Reserves:

According to an estimate, there are 160.2 million tons reserves of marble in the entire country. The contribution of NWFP is 158 million tons. The approximate surface reserves in the Province are, Buner( over 1 billion tons), Nowshera ( 1.65 million tons), Swabi( 0.38million tons), Swat ( 25 million tons), Khyber agency ( 1 million tons) and Malakand also( 1 million tons)

## Geographical Distribution and Locations of marble deposits in NWFP:

Marble in NWFP has been grouped on the basis of their size, color, texture and composition. Bunir marble deposits constitute 50% of the overall deposits in NWFP, they are concentrated in different localities in the district such as Bampokha marble deposits, yakhdara marble deposits, Mirdara marble deposits, Matwani marble deposits, Tursak marble deposits, Bazargai marble deposits and Nanser marble deposits. Besides Buner there are Nowshera marble deposits, Swabai marble deposits, Swat marble deposits, Khyber marble deposits and Chitral marble deposits are few of the important marble deposits to be mentioned here.

## Mining Methods and Techniques in NWFP:

The successful and economical working of marble quarries depends upon an inteligent application of knowledge of the rock structure and its natural divisions in the mass, as well as upon improved methods, tools and machinery used for quarrying. In NWFP, the root of the problem is the current quarrying system. Mining is done on primitive techniques, including uncontrolled blasting. The method comprises of drilling holes in the bedrock that are filled with explosives to blast the rock. This results not only in a high wastage, but also in smaller stone size, which substantially reduces the price.

## Marble Processing Technology:

The technology used for cutting and polishing of marble is basically the same as that used for cutting most of the other stones, except granite. Entrepreneurs believe technology is the top priority. Lack of quality control, absence of modern extraction methods and precision machinery

at the manufacturing units is creating a crisis in the local market and has resulted in shrinking traditional markets. Due to lack of modern technology, about 30% to 70% marble goes waste during exploration. A "gang saw" machine is used which is no more applicable in modern industry.

## Business climate of clusters:

**Buner:** Marble of Buner is of very high quality. Its demand in both national and international market is very high especially of White Marble which is of high quality texture and composition.

**Jehangira cluster** : Jahangira is situated between Nowshera and Attock. Being situated on the main GT road, Jehangira cluster has an easy access to Islamabad and other markets. The advantage for middleman, buying from Jehangira is reduced cost of transportation and ready availability of already cut tiles.

**Warsak cluster:** It is located at a stretch along both sides of Warsak road. This cluster is quite active in national and international market.

**Swat cluster:** It is distributed in Mingora, Fiza Gut, Aligram and Alai sub clusters. This cluster has the advantage of being in proximity of Buner and has some of the most beautiful colours of marble found in its mines.

**Mardan cluster:** It is distributed in Mardan and Risalpur Export Processing Zone.

**Hayatabad:** This cluster is located in industrial estate of Hayatabad. The cluster is active at national and international level that is mostly due to the entrepreneurial efforts of the owners, prevailing demand in Peshawar and high level of average investment in the cluster. This cluster enjoys the benefits of being in the capital of the province.

## Quality and Pricing of the raw material:

The chemical composition of the marble and size of the products are major determinants of quality and price. Bampokha and Mullagori marbles are expensive, because of the colour that is white as well as its consistent grain size. The colour, pattern, texture, hardness and resistance to environmental changes largely govern the price of marble. The marble is graded into different categories; the top one is grade A, which is the whitest. At present, the White, Grey, Brown, Black and Pink marble is sold at the local market only. The existing market price of the Mullagori white marble is Rs. 4,000 to Rs. 5,000 per ton. The Bampokha white marble is the other good quality, which is sold at Rs. 1000/ton. The price of other varieties, like grey, black and pink, varies from Rs. 300 to 500/ton.

## Employment in the Marble Cluster:

Overall the marble processing industry provides employment to 3,890 to 4,260 labourers with an average of 9.8 labourers per processing unit. Marble processing units in Buner directly employs 1750-1850 labourers. The average number of labourers employed in the processing units is 11.9. In Warsak cluster the total employment is 430-470 with an average of 7.8 labourers per factory. Marble processing provides employment to 225-265 labourers in Hayatabad with an average of 8.9 labourers per factory. In Jehangira the number of labourers is from 305- 350 with an average of 7.7 labourers per factory. In Mardan, an average of 8.33 labourers are employed per unit from total of 585-665. Marble processing units in Swat provide employment to 595-660 labourers with an average of 10.9 labourers per unit. The high average in Swat and Buner is due to availability of ready labour in these clusters. While in Jehangira and Warsak due to lack of interest of local people in the industry, the number of average labourers is low. Other factors

influencing the supply of labour are different wages, facilities in different clusters and the daily wage system. Along with direct employment, the marble sector provides indirect employment to around 10,000 in various capacities such as management, account keepers, truck drivers and loaders, etc.

## Literacy Level of the workforce in Marble Clusters:

Buner being an under-developed region has low literacy level. Lack of basic literacy has a direct correlation with an individual's capacity to learn new skills. It will be, therefore, highly desirable to initiate a non-formal basic education initiative to support the change in this trend, which can undermine the efforts, made for cluster development.

## Skill Level of the Workforce:

The marble-processing sector offers a much wider choice of product segments. However, many of the high value products require higher degree of skill sets. The cluster is not supported by a formal skill set development center of any sort. The learning is done through hands on training and experience. This poses a challenge for the limit to which the cluster can diversify into new product categories.

# Kasur Tannery cluster

Kasur is one of the oldest cities of Pakistan, located 55 KM southeast of Lahore . Kasur is adjacent to the border of Ferozpur between Pakistan and India . It is also famous for its favorite dishes, birthplace of Noor Jahan and Sufi poet Baba Bulhay Shah. The town of Kasur was incorporated in the Kingdom of Lahore by Ranjit Singh in 1807 and had been a municipality since 1885. On July 1, 1976 Kasur was raised to the district level after the area was detached from Lahore district.

At the time of independence in 1947, there were only a few leather tanneries in Pakistan, which were operating on a small scale producing mostly sole leather. During 1950s, small well-equipped tanneries were set up at Karachi and Kasur. Today the tanneries are producing not only wet blue and crust, but also fully finished leather.

Pakistan's leather industry is one of the major foreign exchange earners for the country. About 90% of its products are exported in finished form. There are some 600 tanneries in the formal sector and an equally large number of tanneries in the informal sector.

## Economy of Kasur:

Kasur is a rich area since ages, Its fields are very fertile therefore it attracts the settlers and invaders, for this reason it presently constitutes of a number of ethnic units.. Kasur is famous for its dairy products and vegetable cultivation and wheat crop.

## Industries of Kasur:

Kasur is also hub of industrial activity. There is a large number of industries like suger, textile, rice husking and leather tanning. There is also a large volume of cottage industry like handicrafts , 20,000 power looms and garment industry. (city district Govt. Kasur.)

## Tannery Industrial Clusters of Pakistan:

At the time of independence, the leather industry in Pakistan was at small scale. However after independence, it started to grow. Leather industry in Pakistan grew without proper planning and without incentives of Government of Pakistan. At present these cluster are concentrated in few cities like in Karachi 170 tanneries, Kasur-180 tanneries, sialkot-135 tanneries, Multan-80 tanneries. (Source: Pakistan Tanneries Association) However, there are large number of tanneries which are not registered and are part of undocumented economy of Pakistan.

**Animal skin** is obtained from the province of the Punjab and Sindh. Limited quantity of imported hides is also used. The season of peak activity begins around Eid-ul-Azha and extends for two or three months. During this period, production levels can reach twice than the normal level.

**Methods of tanning** of leather include the *chrome tanning method* which is the most commonly used process in Pakistan's leather sector. However, the *vegetable tanning method* and a combination of chrome and vegetable tanning is also applied. The process includes a number of different steps during which large quantities of water and chemicals are applied to the skin. About 130 different chemicals are used in leather processing, depending on the type of raw material used and finished product. These may be divided into four major classes: like pertaining

chemicals , tanning chemicals, wet finished chemicals, finished chemicals . Ground water is used as the major source of water in Pakistan's leather industry.

## Economic Indicators of Tannery Industry:

The leather and leather made-ups industry plays a significant role in the economy of Pakistan and its share in **GDP is 5%** and it is the second largest manufacturing sector in Pakistan .Pakistan leather industry is export oriented , as **90% of the leather produced is exported** abroad either in the form of finished leather or leather products. The leather industry of Pakistan consists of six sub-sectors namely,1- tanning,2- footwear leather,3- garments,4- gloves,5- shoe upper,6- leather goods. **Export** of leather goods is the main revensue generation source of this industry. In fact, the leather industry at Kasur is 99% export oriented. The local sale is nominal. The export of leather goods to different countries like U.A.E. , U.S.A , United Kingdom, Germany, Italy and some other countries of the world.

## Social, Educational and Cultural effect of Cluster at Kasur:

The industrial cluster of Kasur has immense effect on the life of local people. It has revolutionized the life style of local people. Per capita income has increased and has improved financial condition of the local people compared to the pre partition period of the subcontinent. They invest in education are studying in better quality educational institutions. Quality of life has also improved with respect to health facilities, sanitation and access to justice system.

# Gujranwala Light Engineering Cluster

**Gujranwala** is a city in the north east of the Punjab province. It is the seventh largest city in Pakistan with a population of 1,132,509 (1998 census). It borders with Ghakhar Mandi and some small towns and villages. Gujranwala District is situated on the main railway line connecting Lahore and Peshawar. The Grand Trunk Road runs parallel to the railway line passes through the centre of the city. Gujranwala district is spread over an area of 3,622 Square Kilometres comprising of tehsils: Gujranwala, Kamoke, Nowshera, Virkan and Wazirabad. The human settlements in Gujranwala existed since antiquity. According to the Imperial Gazetteer of India the town was originally founded by Gujjars.

Gujranwala district is one of the major industrially developed districts of the country. Keeping in view the availability of raw-material and skilled labor, Gujranwala district supports a variety of industries. It is centre of electrical and engineering goods manufacturing industry, plastic products industry and ceramic products industry.

Due to extensive road and rail links the city has flourished within the manufacturing and agricultural markets. The city is on the Grand Trunk Road which allows logistic connections to the provincial capitals such as Peshawar and Lahore. Gujranwala is known for its extensive production of sugarcanes, melons and grains for exporting internationally. The city also has set up several commercial and industrial centres allowing the manufacturing of ceramics, iron safes, metal utensils, textiles, sanitary as well as tannery production. Gujranwala is a major agricultural and industrial city of Punjab, Pakistan. The rural areas around Gujranwala produce a large variety of agricultural goods, the main crops are rice, wheat, cotton, potatoes, barley, grains,

melons, sugarcane and pearl millet. Cultivation in the surrounding area is dependent upon canal irrigation provided by the River Chenab. The rice grown in the city is regarded as one of the best in Asia. Gujranwala's industrial areas have numerous textile mills, cutlery manufacturing and large agricultural processing plants, Ceramics industries, electronic equipments and auto industry. Master Industries (which makes tiles, ceramics, sanitary, baby diapers and ballpoints and other stationery products) and Super Asia Industry (makers of electronic equipment like air conditioner, washing machines, fans, heat geysers etc) are two major industries of Gujranwala. Gujranwala is also famous for its plastic products, the big names are Boss, Citizen and Toyo. Nowadays there are many industries which are making motorcycles like Toyo Industries, Super Asia and others. The major exports include rice, sugar, textiles, carpets, glass goods, medical equipment, leather products, metal utensils, agricultural equipment, and automotive machinery parts as well as producing machinery for military uses. The main source of energy is a hydro-electric project on the Chenab River. Sambrial dry port has contributed towards growth of exports of the city.

## CERAMIC INDUSTRY

Gujranwala is quite known for its quality ceramics products. This industry not only caters the local market demand, but also contributes export earnings. For years the manufacturers of this area have built their un-matched skills in design, aesthetics and quality. Their products speak for themselves and set higher standards of quality and excellence. The first major pottery factory (M/S Premier Ceramics Limited) which was established in early 60's in Gujrat and subsequently the establishment of Institute of Ceramics, Gujrat in 1965 have contributed to the development of

the trend/style, expertise in manufacturing of different ceramic products and in technology transfer. Over the years this industry has expanded and resulted in a long chain of ceramic factories in this area and are still growing.

### Products of ceramics cluster:

Ceramics are defined as products made from inorganic materials having non-metallic properties usually processed at a high temperature. The word "ceramics" comes from the Greek word "Keramos" meaning "Pottery," "Potter's Clay," or "a Potter" - primarily used to mean "burnt stuff." The technical definition of ceramics encompasses a much greater variety of products than is normally realized. The majority of ceramic products are not generally recognized as these have been developed in the recent past. For instance bathtubs, washbowls, sinks, electrical insulating devices, water and sewerage pipes, bricks, hollow tile, glazed building tile, floor and wall tile, earthenware and porcelain enamel.

## Economic Indicators:

There are 65 ceramic units. The total employment is **5000** and the Capacity Utilization **90%** of total capacity. The industry is **Labor Intensive** and there is less automation. There are **100 units** which are producing wash room accessories. There are 20 major dealers of exports. They have appointed their distributors and dealers all over Pakistan. They are also exporting their products in Middle East, Africa and Central Asia. Some of the major exporters are 3 Star Ceramics, Rizwan Ceramics, Ihsan Ceramics, Asia Ceramics, Dar Ceramics, Minhas Ceramics and Asif Ceramics. **Machinery Used For Ceramics Industry** include Spray booth, Glaze Containers, drums and kilns. ***Raw Material*** for Industry is obtained from local industry and imported as well. The prominent names of ceramics raw material suppliers are M/S Star Ceramics Material,

M/S JR Corporation (Importer & Wholesaler), Kareem Corporation (Local material supplier) and Chief Pottery.

## Institutional Setup:

Different ***Government & Semi-government Organizations*** are working in the area to look after the needs of industry, including SMEDA, PSIC, EPB. SMEDA has a regional business centre in Gujranwala which provides various services; training services, marketing advice, technical advice, legal services, match-making and other business development services. EPB also has a regional office in Satellite town, Gujranwala and provides facilitation in areas of participation in international trade fairs, exhibitions and trade delegations. PSIC has been working for this cluster since 1974-75 in the form of Ceramic Research Institute, Gujrat. However PSIC also has a regional office in Gujranwala which helps in credit facilitation and establishing new industrial areas. Other than these organizations different ***Local Bodies/Chambers/Association*** like Pakistan Ceramics Manufacturers Association (PCMA) facilitates the ceramics stakeholder in resolving issues related with SUI NORTHERN GAS, WAPDA and tax. Gujranwala chamber of commerce & industry (GCCI) established in 1978, has more than 5650 members.

### LIGHT ENGINEERING INDUSTRY

Gujranwala, Gujarat and Sialkot are amongst the major revenue contributoring cities of Pakistan. These cities collectively are known as the Golden Triangle of the Pakistan. The main reason for this attribution is the rapid growth in the sector of small and medium enterprises. **Fan and related products** mostly manufactured in Gujrat and Gujranwala. Fan industry is producing about **seven (7) million fans per annum**. Out of the total production, approximately 30 per cent

fans consist of pedestals, 7 per cent brackets and the remaining 63 per cent are ceiling fans. The industry belongs to the light engineering industry category, and is one of the industries that existed at the time of independence. One of the fast growing light electrical engineering industries in Pakistan and Gujranwala is fan industry.

**CUTLERY INDUSTRY**

Cutlery implements include different utensils like knives, swords, razors, scissors, forks and spoons used for commercial, domestic usage. It is broadly divided into two categories i.e. kitchen and table cutlery and non kitchen and non table cutlery. It is one of the important commodities of engineering sector in Pakistan. The total export of cutlery items was almost US $33 Million for year 2009. It is exported to USA, France, Germany and UAE and the main competitive countries are China, Germany, Korea and UK. This sector is blessed with number of positive attributes like skilled labor, foreign exposure, training centers, and raw material and export friendly government policies. There is a wide untapped foreign market like Russia, Australia, Africa and South America. There is a big threat from China, which is gradually capturing the entire global market. unethical business practices, environment of mistrust and price based competition within industry in order to become competitive at international market.

In the kitchen and table cutlery, the Knives, swords and Daggers are the main items which are 89% of the total export of cutlery whereas 11% export is of non-kitchen and non table cutlery.

## Economic Indicators:

The total number of Units of cutlery industry is **300.** People employed in this industry are about **25,000.** The average production of cutlery industry is **5000 piece per day.** The Capacity utilization is **40-50%.**

The Main Locality of cutlery industry is in **Wazirabad, Nazimabad and Allahbad** in **Gujranwala district.**

# Gujrat Industrial Cluster

## FAN CLUSTER

Gujrat is a well known industrial city of Pakistan. Main industries like Fans, furniture, ceramics, have played a vital role to the uplift of economy of the country. These industries are not only fulfilling the need of our country but are also exporting products to different countries and providing employment to a large number of people.

The cluster is located in and around the district of Gujrat along the bank of river Chenab. This city is the 3rd pillar of "Golden Triangle" i.e. Gujrat, Gujranwala, Sialkot. The district comprises of three tehsils: Gujrat, Kharian and Srai Alamgir. The total population of Gujrat is approximately 2.7 million. Nearly 15900 persons were employed in Gujrat in the industrial sector as recorded in 2009. About 1059 pottery/ceramics (FAN CLUSTER )and fan SMEs are working in the industrial estate while the rest was spread different areas of Gujrat city. Cluster development program was first initiated by United Nation Industrial Development Organization in mid-2001. For this purpose five clusters were selected. Electric fans in Gujarat & Cutlery in Wazirabad were among those five clusters.

Gujrat is the home of largest manufactures of fans in Pakistan and is located in the region with a rich tradition of metal based industries. Before the production of fans the local metal workshops were famous for water pipes (hookahs) and water hand pumps. Fan industry was started here before partition in 1944. The hot climate condition of Pakistan was the main driving force behind this fan industry.

Mainly two type of fans are being manufactured in Gujrat

1: Domestic Fans

2: Industrial fans

The **current out put** of the Gujrat cluster is about 70,000,00 fans per annum(8 working hours per day). A rough estimate shows that the installed capacity of the cluster is almost double, so the production is less than the installed capacity. Availability of funds and exploration of new markets can enhance the capacity of production.

**Market scenario:**

**Domestic Market:**

The major production of the cluster is consumed in domestic market. It is estimated that about 60% of the fans sold were used in the rural areas and the rest were used in the urban areas.

**Distributional Channel:**

In big cities like Karachi, Lahore, Peshawar, Hyderabad large manufacturers used to sell their products either through their own outlets or through distributers. In the far flung rural towns and villages, the sales business was usually conducted by small retailers. **International Market:** Besides meeting the domestic requirements, electric fans are also being exported from Pakistan. The major fan export markets are Bangladesh, Saudi Arabia, Sudan, South Africa and Middle Eastern countries.

## Furniture Industry

Real wood furniture is the most popular industry of Gujrat. It is developing gradually at its own and the idea of setting up showrooms on G.T Road, and Gujrat by pass is increasing. The estimated overall furniture sale from Gujrat is about Rs.500 million per annum. Furniture cluster of Gujrat is famous for the production of quality wooden furniture. Gujrat was known for its furniture manufacturing even before the independence because of the availability of cheap

skilled labor. Presently most of the manufacturers are depending on traditional method (labor intensive technology) that results in the low productivity.

According to the statistics provided by the industry, there are about 300-325 micro sized units involved in the business of furniture manufacturing. The number 300 includes all the units that are either directly or indirectly involved in the furniture manufacturing. These units are vertically integrated and are involved in the different stages of furniture manufacturing. Some of these units also have organized themselves in specialized products manufacturing, i.e. one unit is producing only one kind of products not all the products (e.g. a unit producing chairs will only produce chairs). The furniture manufacturing units are selling their products in semi finished and finished form in Gujrat as well in the other cities.

## Employment Generation:

According to the estimates provided by the industry there are about 7,000 to 8,000 persons in Gujrat that are directly involved in the furniture manufacturing. These persons can be divided into the categories of carpenters, polishers, upholstery workers and the general laborers. As far as the training of this work force is concerned, there is no specialized training institute for furniture workers in Gujrat except for the wood working service center but this center is producing only 10 certified furniture workers per year. These workers can work as supervisors but the quantity is negligible as compared to the demand of supervisors and skilled workers in the cluster.

## Capacity Utilization:

Capacity utilization of the existing units is not sufficient even to meet the demand of the domestic market. It is below 50%. None of the units has the capability of mass production. Even

the medium sized units take minimum 3-4 months for an order. Sufficient gap exists and it is increasing day by day with the increase in the population of the country.

## Current Cluster Scenario:

Furniture industry is developing gradually at its own and the trend of setting up showrooms on G.T Road, and Gujrat By-pass is increasing. The estimated overall furniture sale from Gujrat is about Rs. 250 million per annum. This figure is gradually increasing with the increasing demand and quality consciousness of the consumers. There are around 350 units overall and over 8,000 persons are directly or indirectly involved in this sector. At the moment, a few of the local furniture manufacturers are exporting furniture items to the individual clients in UK, US, Saudi Arabia and Middle East. The total export of Furniture from Gujrat is about US$ 4.5 million. (Directorate of industries), however due to limited production capacity these firms are not able to fulfill the large export orders and hence can not compete vigorously in international markets. China and India are the major competitors. Their prices are less and quality is better. Sheesham wood which is basic raw material is short in supply to fulfill the local market requirement.

# Sialkot Industrial Cluster

**Sialkot** is a city situated in the north-east of the Punjab provinceat the foothills of the snow-covered peaks of Kashmir near the Chenab river. The city is about 125 km (78 mi) north-west of Lahore and only a few kilometres from Indian controlled Jammu. The recorded history of Sialkot covers thousands of years. It is lying between 32°30′ North latitude and 74°31′ East longitude at an altitude of 256 m above sea level, Sialkot is bounded on the north by Jammu, north-west by Gujrat, on the west by Gujranwala and on the south by Narowal. The Chenab river flows to the north of Sialkot. Sialkot is cold during winters and hot and humid during summers. The land is, generally, plain and fertile. Sialkot has one of the most modern weather forecasting and flood warning centres in Pakistan, which is fully equipped to record and transfer data to and from the relevant concerns. This facility is equpped with a radar and is internationally linked.

Sialkot (district) has a diverse population of 3,500,000 which mainly consists of Punjabis, Kashmiris and Pashtuns. Population Density is 1160/km$^2$. Population Growth Rate is very low as compared to other urban areas of Pakistan. In 1947, Sialkot was the 6th largest city in Pakistan (150,000) and in 2009, it is the 13th largest. Literacy rate is among the highest in Pakistan. In urban areas, it is 73% and in rural areas, it is 54%. Employment in agriculture is only 19.5% and 32% in elementary occupations. 95% of the population have electricity and 96% have the water facility. Sialkot has also attracted many labourers and other.

## Economy of Sialkot:

Sialkot is the third largest economic hub in Punjab after Lahore and Faisalabad. It is commercially linked with the Lahore Stock Exchange through its Sialkot branch, known as the **Sialkot Trading Floor** (STF). The State Bank of Pakistan and the Export Promotion Bureau of Pakistan have branch offices in Sialkot. After Karachi, Sialkot is Pakistan's second largest source of foreign exchange earnings through its **exports** and remittances from the overseas manpower.

Sialkot has an Industrial Estate and an Export Processing Zone. The **per capita income** of Sialkot is ranked among the highest in Pakistan that is $3 per day.

## Sports Industry of Sialkot:

Sialkot is famous all over the world for its **Sports Equipment** manufacturing industry. According to city government released data, the sport goods industry is 2nd largest export industry of the country. It is manufacturing now a variety of wood and leather-based sports equipment, and diversified into related industries such as cricket balls, volleyballs, field hockey sticks, polo sticks, recreational fishing equipment. Sports apparel and horse riding equipment and even the Scottish bagpipes are now being manufactured in Sialkot. The most successful sports manufacturing firms now have international collaborations with the well-known sports brands like [Adidas] (Germany), Puma (Germany),Nexo Sports (Canada), Nike (USA), Dita (UK), Mikasa Sports (Japan) and Slazenger (UK). In the recent past, however, lack of modernisation and allegations of child labour usage have resulted in a loss of market share to the new entrants in the business like Thailand, Korea and China. However now most of the companies have adopted the ISO standards.

## Surgical Instruments industry:

The birth of Sialkot's surgical industry can partly be explained by what U.S. economist Paul Krugman calls an "historic accident." In 1905, some broken surgical equipment at the American Mission Hospital in Sialkot afforded a chance for Sialkot craftsmen to adopt their skills. Encouraged by the hospital staff, they gradually started manufacturing replicas of originals. Orders were received from other mission hospitals in British India. By 1920, Sialkot was exporting to all parts of the British empire including Afghanistan and Egypt and was later selected for supplying surgical instruments for the Allied forces in World War II.

Now a days Sialkot is manufacturing a range of surgical instruments including Medical Devices & Appliances and Dental Instruments . Its ***Total capital investment*** is **Rs 12 Billion** and ***total number of units*** is ***1200 Units. Sialkot's Contribution to GDP*** is **Rs. 3.5 Billion** and ***Total***

***Production*** is **94 Million.** Sialkot is providing total ***Employment*** to **50,000** people on average.***Total Exports*** in the year 2009 are estimated **US $ 124 Million.**

Other important industries in Sialkot include **Leather Tanneries**, **Leather Garments**, **Musical Instruments**, **Sportswear** including Martial arts wear , **Gloves**, **Badges**, Seat and Walking Sticks, **Cutlery**, Hunting Knives, Air Guns and Shotguns. These are all export-oriented businesses and earn billions of dollars every year in foreign exchange.

There are over 3,000 small and medium sized sports goods industrial units, and some 50 well established industries functioning in and around Sialkot. The sports goods industry of Sialkot, producing quality goods mainly for foreign markets, has over a century old history. It is a labour-intensive industry providing direct and indirect job opportunities to about 60,000 workers, while sub-contracting of work on piece rate is a common practice, resulting in more jobs for people. A major portion of the total production comes from cottage and small scale manufacturing units. However, some units have joint venture collaboration with foreign manufacturers, which benefit technical and marketing support to their foreign partners. In 2002, sports goods export from Sialkot worth to Rs 11,039 million, indicating a 16.91 percent increase in foreign exchange earnings as compared to the previous year. Presently, Pakistan is competing with India, Japan, Taiwan and South Korea in international markets. India has an advantage of cheap labour and raw material, whereas countries with semi-automatic mechanized units can produce low-cost and inexpensive sports gear such as metal rackets and cricket bats etc. Since the entry of Japan, Taiwan and Korea, the industry is tilting towards mechanization and the use of modern equipment, which has resulted in tougher competition for manufacturers and exporters of sports goods in Sialkot. It speaks volumes for the quality of sports goods of Sialkot that it continues to compete in the global market without a fully mechanized industry, relying mostly on old and

traditional production techniques. Soccer ball industry of Sialkot was alleged some time back by foreign print and electronic media to involve child labour in the stitching of balls. Prompt action was taken by Sialkot Chamber of Commerce & Industry (SCCI) to tackle the situation and protect the industry. The SCCI through the corporate sector signed an agreement at Atlanta, Georgia, USA with ILO-IPEC and UNICEF in February 1997 to purge the soccer ball industry from the stigma of child labour, through progressive implementation of Sialkot project with emphasis on providing social protection to children and their families. The children were provided proper schooling under the programme. The programme met with unprecedented success due to unstinted participation of manufacturers who were invited to join the programme on voluntary basis. The success achieved in this programme is evident from positive remarks appearing, every now and then, in international print and electronic media, and even the former US President, Bill Clinton in his address to the ILO convention at Geneva in June 1999, specifically quoted the Sialkot project as a model of success, advising others to replicate it. While the sports goods industry has reason to be proud of its achievements, SCCI sources said it was high time for the industry to modernise its base if it wants to remain competitive, to retain and increase its share in the world markets.

# Recommendations:

- Looking at the potential and number of mines in the province, a large number of technically qualified personnel are necessary.
- Policies to boost export industries of these clusters are required.
- Need of the hour is to take proactive and logical steps to tackle the law and order situation effectively is required.
- Emphasis is on creating the required infrastructure and have long-term plans.
- Providing subsidized and long term loans to exporters who have suffered losses due to law and order situation.
- Treating US and Europe in focus markets scheme.
- Helping the industry in providing innovative product designs at competitive rates.
- Incentive reimbursement is also an important attraction for the exporters.
- Duty free import limit for manufacturing exporter on the % of export value should be increase.

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