

CLUSTER PROFILE
COTTON GINNING CLUSTER
RAHIM YAR KHAN



Turn Potential into Profit

Small & Medium Enterprise Development Authority
Ministry of Industries, Production & Special Initiatives
Government of Pakistan
<http://www.smeda.org.pk>

8th Floor, LDA Plaza, Egerton Road **Lahore**
Tel: +92-42-111-111-456
Fax: +92-42-6304926-27

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1 Introduction – Rahim Yar Khan

District Rahim Yar Khan is spread over an area of 11,880 square kilometers with four tehsils: -Rahim Yar Khan, Kaput, Liaqatabad and Sadiqabad. It has very hot and dry climate in summer. The maximum temperature touches 49.7°C. The minimum temperature recorded is 6.8°C. The average annual rainfall in the district is 165 mm. The district can be divided into three main parts.

- River area
- Canal irrigated area
- Cholistan area

The river area of the district lies close to the river Indus and Panjnad and the canal irrigated area lies to the South West of the river area. The land in this area is higher than that of the river area. The approximate height of this area is 150 to 200 meters above sea level. The desert area lies in the South-East of the district. It is called as the Cholistan. Sugarcane, Wheat, and Cotton, are main crops grown in the district. Major industries in the district are Beverage, Cotton Ginning & Pressing, Drugs & Pharmaceuticals, Fertilizer, Flour Mills, Fruit Juices, G.I. /M.S. Pipes, Hatchery, Oil Mills, Packages, Paper & Paper Board, Poultry Feed, Seed Processing, Soap & Detergent, Sugar, Sulphuric Acid, Textile Spinning, Textile Weaving and Vegetable Ghee & Cooking Oil.

2 Description of Cluster

2.1 History & Background of Cluster

After the independence of Pakistan in 1947, the cotton Ginning Industry in Pakistan had a desolate look of misery due to the migration of Hindus and Sikh owners who had left Pakistan not only with the know-how but also with the most of the parts of the ginning machinery to India. The Pakistani took over the industry mostly by allotment as evacuee property and tried to operate the factories with whatever machinery was available. This practice continued from 1947 to 1950. During this period the provincial government came out with Punjab and Bahawalpur Cotton Act 1947 and tried to regulate working condition of ginning factories through Cotton Inspectors.

In 1960, the cotton ginning factories were transferred from the allottees to the new buyers of the factories. The new owner of the factories braved the situation and with the best of their abilities and available resources, tried their best to increase the efficiency of ginning preparation and standardization of lint quality-wise and grade wise in Pakistan.

The ginning industry has mushroomed in the cotton growing area of Pakistan without adequate regulations. Cotton control act of Punjab and Sindh from the 40's era have been continuing without any significant amendments and there is a need to update most of the industry is in the hand of local traders who have upgraded their enterprise from mandi commission agent operations or cotton intermediary trading by installing saw gins. There are few old ginning families in Sindh and Punjab whose next generation have continued with the industry. Ginning activity is more entrepreneurial trading than a processing activity, since the ginner has to play with the market risks of lint and cotton seed prices.

2.2 Description of Product

Cotton is a major world fiber crop. It is grown under a very broad range of climates, soils and cultural practices. Prior to the introduction of man-made artificial fibers, it was only the raw material from which human clothing and other necessary textiles were manufactured. Cotton is the main cash crop and Pakistan is the fourth largest cotton producer in the world. The largest cotton producing country is China followed by USA, India and Pakistan

However the current demand for cotton exceeds supply and Pakistan meet a part of its raw cotton requirement through imports. It produced about 14 million bales of lint (PCGA report) and 780 kg of lint per hectare. Cotton provides raw material to 450 textile mills, 1221 ginning factories and 5000 oil mills. Approximately 65 per cent of Pakistan's annual export income comes from textile sector. Similarly other industries, such as pharmaceutical, soap, chemical and feed industries also rely on cotton by-products. Besides this, cotton is an occupation of 1.5 million farming families and provides job to 50-54 per cent of labor force. Therefore cotton is known as the life blood of Pakistan economy.

2.3 Core Cluster Actors

There are 156 Ginning units out of which 149 unit are currently operating in the Cotton Ginning Cluster Rahim Yar Khan. The Saw Gin machines that are being used in the ginning factories are locally made and it is the copy of American brands like Lummus, Centinial and Continental technology that was used in 1950-60 in United State of America (U.S.A). The productivity rate of local made single machine is 2 bales/ hour while the new American branded continental Eagle machine is producing 7-9 bales per hour. There is no testing lab in the district for cotton lint grading. Currently the grades are decided manually based on experience but that are not authentic. Unavailability of testing lab creates disputes among the ginners and buyers of the cotton. This results in low bargaining power of ginners.

2.4 Other Cluster Actors

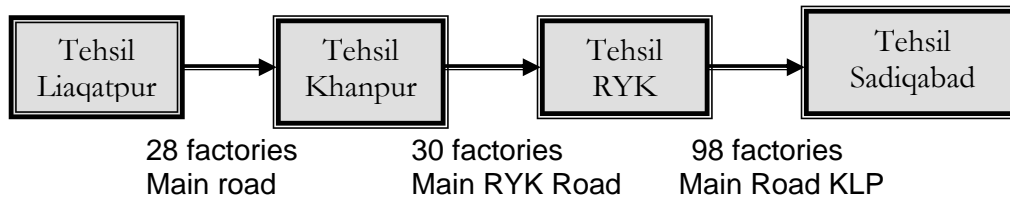
Most ginning factories purchased seed cotton from Bupari (agent) and wholesale market (Arthi). On average, the ginners purchased 70 percent of their required seed cotton (Phutti) through middle men i.e. through Buparis and arthi (commission agent) where as 25 percent is being purchased directly through farmers and only 5% was their own supply. The ginning factory owners pay to the Bupari or Arthi after the rate for Phutti agreed upon. The ginning factories also process the seed cotton (Phutti) for big farmers on contract bases.

Seed cotton (Phutti) mostly transported to ginning factories through jute bags or on tractor trolleys fitted with frames wrapped in polypropylene bags sown together with jute yarn to form a big cotton holder. In this way more volume can be carried to the factory from the farmer or wholesale market. The frame of polypropylene and the jute thread are source of major contamination problems in the process of spinning and weaving.

The phutti is not stored under cover shed or in proper storage facilities. It is left open in the wholesale market yard and ginning factories. In this way dust, toffee wrapper, polyvinyl bag pieces and trash gathers into it. Also overnight dew and rain increase the moisture content level and causes the deterioration of the color quality of cotton fiber. This deterioration of color quality of cotton affects the dyeing and finishing characteristics.

2.5 Geographical Locations of Core Cluster Actors

According to the PCGA survey 2006 there are 156 Ginning units out of which 149 unit are currently operating and 145 oil expelling units in Rahim Yar Khan. District Rahim Yar Khan is spread over an area of 11,880 square kilometers with four tehsils: -Rahim Yar Khan, Khanpur, Liaqatabad and Sadiqabad. All the 156 factories of the district are located in four tehsils of Rahim yar khan. One main by pass road connects these four tehsils of district and almost all of the factories are located near by the main road as shown in the location map of the whole district Rahim yar khan below.



2.6 Geographical Location of Other Cluster Actors

Most ginning factories purchased seed cotton from Bupari (agent) and wholesale market (Arthi) or sometimes directly from farmers of the district Rahim yar khan area. The commission agents and Buparis use to sit mostly in the market committees of the district Rahim yar khan to settle the rates between the farmers and ginners. District Rahim yar khan has four market committees, where the Buparis, Arthi commission agents and farmers use to settle down the business with ginners.

- Market committee Rahim yar khan
- Market Committee Khan pur
- Market Committee Liaquatpur
- Market Committee Sadiqabad

2.7 Current Cluster Scenario

Pakistan's consumption of cotton for the year 2003-04 was 9.6 million bales (of 480 lbs), whereas the production was 8.2 million bales (of 480 lbs), this indicates that we are still getting low yield. The average yield of our country is about 562 kg per hectare, whereas our local varieties have a potential to produce about 910 kg per hectare. So to achieve this target potential yield, the cotton growers should have to come up with modern agricultural practices, especially crop protection and secure storage techniques for maintaining the quantity and quality of yield as well. No doubt the grower's aims to ensure the maximum yield with minimal adverse impacts, but there are several factors which cause their economically unacceptable damage. Unfortunately in our farming systems, uncontrolled insect pests, diseases and weeds reduce yields at harvest by 30-50 per cent and around 20-25 per cent during storage.

Among yield decreasing factors, at present, the plant diseases are the major concerns. Generally a heavy disease infestation may cause crop losses by 30-50 per cent Over the last decade cotton production has been in the range of 8.5-10 million bales per annum. It is the 2nd largest crop grown in the country in terms of covered area.

- It account for 11.7 % of value addition in agriculture
- Contributes 2.9% to GDP
- Covers 13% of cropped area
- Provides raw material to 1212 ginning factories and 450 Textile Mills

The numbers of frame is estimated to more that 1.3 millions, each of them being operated by one to three families. The size of the land ranges from 0.5 to 60 hectares, with an average between 3 and 10 hectares.

In the current year, Rahim Yar Khan produces approximately 18 million bales that are 37% more as compared to last year.

Production of Cotton Lint in District Rahim Yar Khan Quantity in bales

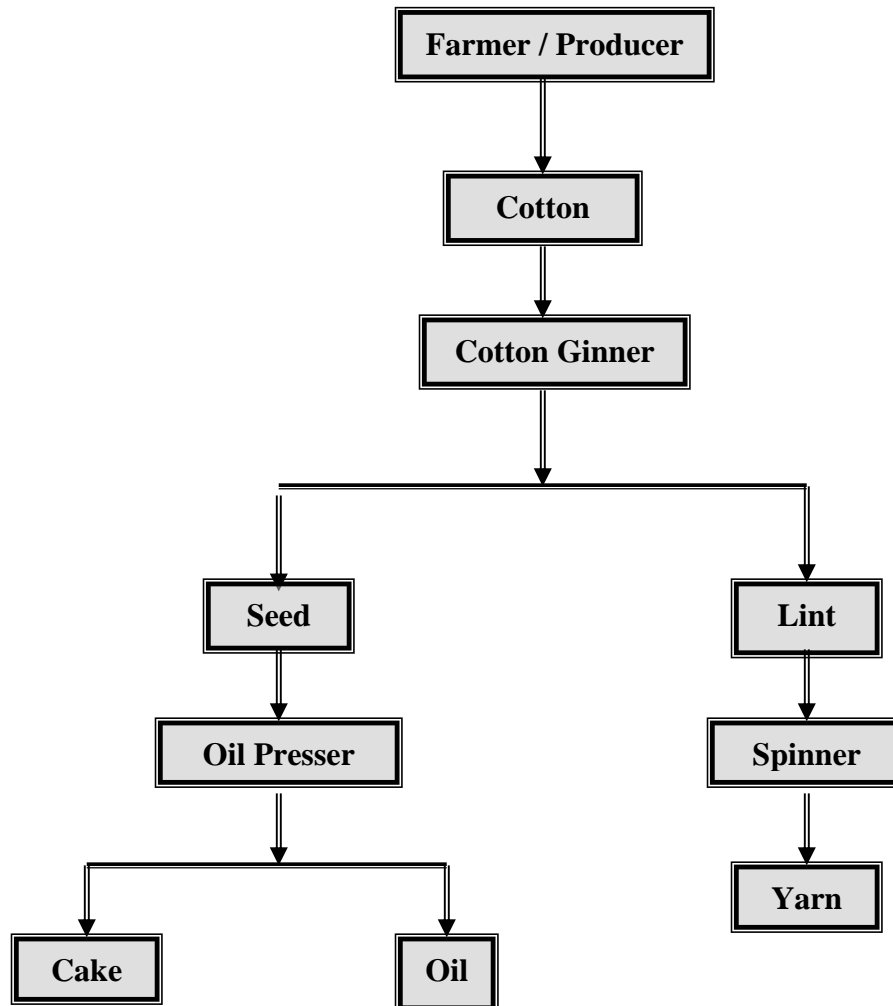
Years	Quantity	% change
1996-97	1,061,039	3.6
1997-98	910,636	(14.2)
1998-99	926,570	1.7
1999-00	136,1631	46.95
2000-01	1,304,152	(4.22)
2001-02	1,291,624	(0.96)
2002-03	1,420,902	10.01
2003-04	1,132933	(20.0)
2004-05	1,790,342	37.0
Source: PCGA		

3 Analysis Of Business Operations

3.1 Ginning Production Process at Rahim Yar Khan

The cotton ginning is performed in Rahim Yar Khan between September and March. Once harvested, seed cotton might be directly sold to the ginner, though it is generally going through one or two middlemen's hands before it eventually reaches the ginnery gate. The brief production process flow of cotton ginning is as follows:

Cotton Ginning Production flow



3.2 Raw Materials Availability and Requirements

Raw cotton is the main raw material for the ginning industry. Rahim-Yar-Khan is at the top in production of cotton in Pakistan. Cotton is mainly raised in irrigated area on the alluvial plains of the Indus river, sowing being performed in March-April for the Sindh province and in May-June for the Punjab where 80% of the total crop is planted. Harvesting is achieved from August to February. The yield per hectare is low for irrigated cotton (1,650 kg/ha, that is 545 kg of fiber per ha).

3.3 Technology Status

Some machines that are made at this time are based on models belongs to the past and often consuming too much horsepower. The Saw Gin machines that are being used in the ginning factories of Rahim Yar Khan are locally made copy of U.S.A. brands like Lummus, Centinial and Continental technology that was used in 1950-60 in U.S.A.

The local manufacturers who copied this technology were semi-skilled mechanics without any professional training. So during manufacturing of Saw-Gin machines, these semi-skilled manufacturers failed to make exact copy of technology and missed many parts during manufacturing of Saw Gin machines. This was a major drawback of our local made Saw-Gin machines. The productive rate of local made single machine is 2 bales/ hour while the branded continental Eagle machine is producing 7.5 bales per hour. So the copy of that machine contributes only 30 %. We are going back instead of going forward because we are not following the operations that were recommended in the consultant of DAGRIS Report(DAGRIS is a public limited French company.

3.4 Legal Issues

There are too many taxes by the Govt on the industry, which mainly includes the following:

- Income tax
- Sales tax
- Professional tax
- Market committee
- Employee old age benefit
- Social security

3.5 Quality Assurance

Quality control and quality assurance related to ginners and farmers. For example, there is an issue of high contamination percentage in the cotton. Contaminations of raw cotton take place at every step i.e. from the farm picking to the ginning stage. There is a needs to control contamination in cotton for improving the quality of our garments and as well as for getting maximum premium.

The main sources of contaminations are jute, plastic films, leaves, leather bits, hair, polyethylene and polypropylene as well. Early picking of cotton in the morning before dew dry up and addition of water by picker and farmers to increase the weight of cotton, damage the cotton quality. Contamination may occur due to improper picking practices. For example, picking start from bottom and goes to upward of the cotton plant but the pickers start inversely. As the most of picker labors belong to very low income class, so the cloth they wear are in very poor conditions and the pieces of their cloth some time add to the Phutti that also become the cause of contamination. Improper handling of storage and transportation is also another reason of contamination.

The most of the farmers do not store seed cotton (Phutti) under the shed. As a result, the leaves, leather pieces and hairs added into the Phutti. Contamination also occurs during transportation of Phutti from farmer to ginners through middlemen. The middlemen bring the Phutti to the ginners in the form of jute and Polyethylene bags. The jute and polyethylene threads mixed with Phutti during unloading that are also the major source of contamination. According to State bank report, Pakistan facing huge loses of U.S \$1.4 billion to \$3.0 billion due to contaminated cotton.

3.6 Marketing, Sales and Distribution channel

Currently there are 4 markets in the district Rahim yar khan, performing the business activities between ginners and farmers

- Market committee Rahim yar khan
- Market Committee Khan pur
- Market Committee Liaqatpur
- Market Committee Sadiqabad

Most ginning factories purchased seed cotton from Bupari (agent) and wholesale market (Arthi) or sometimes directly from farmers of the district Rahim yar khan area. The commission agents and Buparis use to sit mostly in the market committees of the district Rahim yar khan to settle the rates between the farmers and ginners. District Rahim yar khan has four market committees, where the Buparis, Arthi commission agents and farmers use to settle down the business with ginners. The ginners take raw cotton to their factories and after performing the ginning operations at the factory they transported the finished goods to textile units of Faisalabad, Lahore, Karachi and Gujranwala. Some of them use to focus on international market as well. Currently the ginners of RYK are not interested in promotions, and advertising of the product.

3.7 Financing

Currently, there is no financial constrain regarding getting loan for ginners. The loan is easily available from the private banks to meet the working capital requirements. In Cotton Ginning Cluster, almost all the ginning factories obtain their operating capital by borrowing from the commercial banks. Seasonal short term loans are commonly borrowed by ginners for making seed cotton (Phutti) purchase. These loans are for 5 to 6 month duration and are repaid after the sale of cotton lint.

The total financing to ginners and SMEs is approximately between 7 to 15 million. The financing rates of the banks, varies between 10 to 15 % per annum. The management of cotton ginners also financed to cotton growers directly and through middlemen as well to meet production expenses of Phutti. These loans are in the form of cash, seed cotton, fertilizers and pesticides. The period of this loan was for crop seasons. Although the ginners do not charge any interest over such loans but by paying less price for seed cotton than the market price, the lose of interest compensated in this way. When the loan activated, the farmer or the middlemen who are the borrower of loan make a commitment with the ginners that the seed cotton (Phutti) will be supplied after picking.

3.8 Human Resources

In the ginning cluster Rahim-Yar-Khan, the ginning factories are being run by none professionally trained person. These people are illiterate and uneducated. They learned technical skill through experience or from father Mistri who was also not well qualified in this field. They even not know about the material and its composition that is used in the ginning plant. Instead improving the process these semi trained Mistri creating more problem in the process. These technicians can not make proper adjustment of saws, Ribs and pipe adjustment etc that also result in low productivity rate and more consumption of electricity. Currently, there are no specific criteria set by the Ginners of RYK regarding the education level, requirements and technical knowledge of the workers. They are hiring people on the basis of their experience in ginning industry.

4 Institutional Setup

4.1 Entrepreneurs Associations

149 ginning factories are performing the business operations in this area but still there is no formal entrepreneurs association exists. Every body has its own setup and they don't have any collaboration with other industry and associations. **Pakistan Cotton and Ginners Association (PCGA)** is the main association who has representation from R Y Khan.

4.2 Govt/Semi Govt Support Institutions?

The following supporting institutions are playing vital role to develop the industry of Rahim yar khan

4.2.1 Cotton Ginning research Institute

The federal Government has established the Cotton Ginning Research institute abuzahbi road Rahim yar khan in order to improve and develop new variety of fiber on the basis of GOT. The main branch of this institute is working in Multan close to the research station of the CCRI. It includes a laboratory to test the fiber, the seed and a micro gin line with a saw gin, and two roller gin stands.

4.2.2 Punjab Small Industries Corporation

This institute is working under the Ministry of industries with the objectives of SMEs financing and cluster development programs

4.2.3 Regional Business Coordinator SMEDA

SMEDA has started its Regional Business Center at DCO office Rahim Yar khan with the objective of providing guidance and support to SMEs and all the local industry players of Rahim yar khan regarding business development services, corporate mercantile and cluster development issues.

4.2.4 District Officer Industries

DOI is also responsible for the development and the growth of industry at Rahim yar khan. Office industries also provide the information of the registered or non registered industrial units of the district Rahim yar khan.

4.2.5 Technical Education and Vocational Training Authority

TEVTA is responsible for training the unskilled or semi skilled labor in order to perform better in the various departments of the industrial units. Unfortunately, TEVAT has not yet developed a mechanism for the training of the ginners

4.3 Educational Institutions

As regards the availability of skilled labor, there are 10 technical / commercial / vocational institutions (9 for men and 1 for women) at Rahim yar khan, imparting training in various trades e.g. mechanical, electrical, auto-engineering, welding, wood working and commerce. In all about 1,122 technicians, artisans and workers are trained every year. The district Rahim-Yar-Khan is at the top in cotton production as well as in number

of ginning factories in Punjab but unfortunately, there is no institute in the district that imparts training for ginning technicians.

4.4 Banks and Financial Institutions

The following 19 Banks and financial institutions of Rahim yar khan are providing the fabulous financing facilities to the Gidders and SMEs.

Name of the Financial Institutions	No of Branches in District
Askari Commercial Bank limited	1
Muslim Commercial Bank limited	29
Habib Bank limited	20
Alfalah Bank	1
United Bank limited	28
Faisal Bank	1
The Bank of Punjab	5
Bank Al Habib limited	2
National Bank limited	21
Allied Bank limited	15
Bolan Bank limited	1
First woman bank limited	1
Metropolitan Bank	1
Saudi Pak Bank Limited	1
Punjab Provincial Bank	4
National Savings Centre	4
Zarai Taraqati Bank	4
Khushali Bank Limited	2
SME Bank	1

4.5 Private BDS Providers

Currently there are no private BDS providers working at RYK

5 SWOT Analysis

5.1 Strengths

- Raw material available locally
- Infrastructure available
- Excess install capacity

5.2 Weaknesses

- Four times less productivity by use of local made old technology
- Non conformity of standard
- Semi skilled labor
- No technical training institute for Ginning Industry

- No testing laboratory for staple and fiber testing
- Contaminated cotton
- High rate of contamination
- Lack of online market facility to access international buyers
- No warehouses and cotton lint storage facilities

5.3 Opportunities

- Introduction of latest modern ginning technology being used in developed countries
- Export of cotton to other countries
- Possibilities to achieve premium for best quality that government had announced on the basis of grade
- Access to international markets through online market
- Ginning Training Institute

5.4 Threats

- Shifting trend from cotton fiber to polyester fiber
- Government regulations i.e. lot of taxes on the industry
- Fluctuation in international market price
- Global Competition
- Pest diseases on cotton crop result in low production of cotton lint
- Import of cotton
- WTO

6 Investment Opportunities in Cluster

Rahim Yar Khan is the largest cotton growing area of Pakistan so the investor will get benefit of the quality and availability of the raw material. So he can invest in the following project:

- Cotton Ginning and Pressing units
- Spinning mills
- Surgical Cotton Production Units

Some other potential projects are as follows:

- Weaving Units
- Fabrics Dying Units
- Garments Stitching units

SMEDA has also worked on projects and Pre-feasibilities regarding cotton and textile and fabrics. List of these pre-feasibility studies are as follows:

- Commercial Embroidery Unit
- Commercial Circular Knitting Unit
- Tents & Canvas
- Boutique (Women Designer Wear)
- Fabric Weaving (Auto Looms)
- Collar Knitting
- Bed Linen
- Cotton Bags
- Cotton Towels
- Socks Manufacturing Unit

These studies are available at SMEDA website and can be downloaded from web link:
www.smeda.org.pk



For Further Information Please Contact SMEDA Regional Business Center, Rahim Yar Khan