

Full Length Research Paper

Cotton and textile branch of Kazakhstan State: problems and prospects for the development

Azhimetova Gulfari Nurzhanovna

Kazakh National Pedagogical University, Microdistrict Koktem -1, home 29, flat 48, Postal index- 050000, Almaty City, Republic of Kazakhstan. E-mail: Gufa81@mail.ru.

Accepted 30 May, 2011

Structural restructuring through opening of industrial associations and introduction of cluster technologies has become possible mainly in most developed industries of the Kazakhstan economy including cotton-textile area. Kazakhstan is situated in the centre of broad markets sales of CIS and Eastern European states, which makes it possible to apply the development model to cluster industry. Resource endowment of cotton-textile industry of Kazakhstan is determined by such components as natural and climatic conditions favourable for cotton plant cultivation along with professional skills of local population, farm field irrigation and manufacturing capacity of cotton processors.

Key words: Textiles, cotton, Ontustik SEZ, cotton-textile cluster.

INTRODUCTION

Textile and cotton manufacturing industries are core industries in both developed and developing countries. The current world textile market situation is that textile industry manufacturers are migrating from Europe to Asian countries. Hence the high-priced labour force in Europe, which materially affects the cost of finished goods, and also the efforts towards bringing the manufacturers closer to new sales markets.

Lower cotton prices as opposed to other fibres accelerated economic growth, popularity and increased supply of cotton goods as opposed to other fibres; and have definitely caused the growth of consumption. In addition, the prices of cotton goods have decreased due to the concentration of textile manufacturing in low-cost labour countries.

Textile industry is one of the main budget-setting industries in many countries throughout the world. Though it covers only 10% of domestic market needs in Kazakhstan, the volume of domestic production must satisfy 30% of domestic demand at least for the purpose of economic security and stability of the given country.

Essentially, the raw material base of textile industry is divided into natural (cotton, wool) and synthetic

(polyester, acryl, viscose, etc.) fibres. The base of natural raw material (mainly cotton) is generally developed in Kazakhstan, while chemical raw materials are basically imported.

The general world consumption of cotton-fibre fluctuates within 23.9-26.9 million τ that exceeds volumes of output which are - 22.4-26.5 million τ (Table 1).

Of the 100 countries cultivating cotton, only 5 produce it in large quantities: leading manufacturers are China (25% of the world), USA (21%), India (12%), Pakistan (8%), Uzbekistan (5%) (Cotton price broke the record, 2010).

It should be noted that the yield of cotton varies widely by country-producer. There are countries where a ton of cotton can be harvested from a hectare. In the CIS, the performance of cotton on average is lower than that of China and the U.S., but higher than that of India. The exception is Turkmenistan, which produces only 200 kg/ha of fiber, which is three times less than that of Kyrgyzstan and Uzbekistan (<http://sampishi.ru/material>).

World production and cotton-fibre consumption are influenced by many factors, namely the prices of oil, influencing cost of artificial fibres; a condition of harsh economy caused by politicians. And still, poor harvests owing to weather or other conditions can be leading indicators of instability of the prices.

Table 1. Dynamics of development of the world market of cotton in 2005-2009.

Year	Cotton-fibre manufacture, million tons	Cotton-fibre consumption, million tons	The crop rests in the end of the year, million tons
2005	25.4	25.4	13.6
2006	26.5	26.9	13.7
2007	26.1	26.8	13.6
2008	23.4	23.9	13.6
2009	22.4	25.2	11.5

Source: www.fas.usda.gov/cots/cotton.

Despite the increase in acreage and increased production of cotton, price started growing upward since 2010. Most likely, this tendency will continue till next year (Kuklichev, 2010).

The rise in price of cotton in world market is due to the fact that the raw materials are increasingly in demand nowadays. In recent years, world consumption of cotton has increased several times. This is caused by the rapid growth in production of textiles and clothing in South-East Asia, especially China, where the processing of cotton is increased more than three times, annually. Another reason for the increase in world cotton prices is due to the severe flooding in Pakistan, the world's fourth largest producer of cotton which has killed a large number of cotton fields. Also, due to the terrible weather that affected much of the cotton plantations in China, the level of cotton production dramatically changed. As a result, in 2010 cotton crop in the world dropped by 5.4% compared to the previous year.

Rapidly growing price of raw materials will also affect the prices of clothing and already made garments. Kazakhstan clothing manufacturers are predicting that a serious rise in prices of its products will be due to the recorded rise in price of cotton in world markets.

In 2010 according to the statistics before now, a ton of cotton was worth \$ 1200, but now it is \$ 4500. As a result of which the price of clothing and other products of textile industry could grow by 100% (Kassenova, 2011).

Cotton manufacturers (cotton processors) are individuals and entities who are engaged in cotton growing.

Cotton processing plant (cotton factories) is a specialized building designed for the primary processing of cotton - raw cotton - fiber.

Cotton processing enterprise is a legal entity owning the cotton processing plant or its facilities to render services for the primary processing of cotton - raw cotton – fiber (Law of the Republic of Kazakhstan dated 21.07, 2007).

The cotton industry is the industry that includes the production of raw cotton along with the processed raw cotton and cotton fiber.

Cotton fiber is the primary product produced at

the primary processing of cotton – raw cotton. Raw cotton fiber is not separated from seeds.

Cluster (economic term) is concentrated on a territory; the group of interconnected companies within a sphere, such as the suppliers of a certain equipment, components and specialized services, infrastructure, scientific research institutes; universities and other organizations, complementing each other and reinforcing the competitive advantages of individual companies and the cluster as a whole. An example of a cluster is Silicon Valley in the U.S (Voronov, 2002; Ferova, 2005).

Cluster is a new term of most Kazakhstan economists. In translation, it means "cluster", "concentration". Applicable to the economy, the cluster development should mean the union of all the participants, the chain of added value (the idea of value adding process is from raw material to finished product) of any given branch, related and supporting industries, as well as other institutions relevant to the industry (Field, 2004).

History of cotton growing development in Kazakhstan

Kazakhstan, being one of the certain countries involved in cultivation of cotton plants, has grown to develop its peculiarities and history of development. Cotton growing began in Kazakhstan towards the end of the 19th century, while cotton growing within Kazakhstan territory was widely developed after the Great October Revolution (Kenarsky, 1931; Kupeshev, 1981).

The Great October Revolution is one of the largest political events in the history of mankind that influenced the history of XX century, which occurred in 1917. The victory of the bourgeois thus called the democratic revolution in February 1917 dramatically changed the balance of political forces in the country.

All political forces could be roughly divided into two camps: the first camp, oriented to the development of the country on the path of representative democracy (the dictatorship of the bourgeoisie). The second camp was guided by the development of the country on the path of socialist revolution, that is, to demand the

transfer of all power in the hands of the Soviets or by peaceful means.

Thus, the 1917 revolution, which began in February ended in October. The Bolsheviks and the Marxist historians (domestic and foreign) called it the Great October Socialist Revolution. The opponents of the Bolsheviks spoke of the coup, illegal seizure of power and violence against people.

The victory of the Great October Socialist Revolution was greeted by the workers of all nationalities with enthusiasm. It marked the beginning of the triumphal procession of Soviet power in the vast expanses of the country. Thus, in October 1917 the establishment of Soviet power began.

After the October Revolution, despite the difficulties caused by economic disruption, an extreme decline of agriculture, the Soviet government has provided assistance with worldwide food and manufactured goods to cotton growers.

Lenin, Russian and Soviet politician and statesman, revolutionary, founder of the Bolshevik Party, was one of the organizers and leaders of the October Revolution of 1917. Marxist, writer, the founder of Marxism-Leninism, the founder of the Soviet state gave the essential reconstruction and development of cotton production in Central Asia and Transcaucasia. In 17 May, 1918, he approved a plan of irrigation works, providing the device and the completion of a number of facilities of irrigation systems, reservoirs and watering of cotton crops. The countries of Central Asia were the main raw cotton base for the Russian textile industry.

For the purpose of reconstruction and development of cotton industry, the Chief Cotton Committee was created in Moscow in November 1921. It was tasked with recovery and development of cotton. In the 1920s, the main cotton committee was organized with a number of experimental stations in cotton in Central Asia and Transcaucasia. One of such experimental cotton stations was Maktaaral Experiment Station (now the Research Institute of Cotton RK) in Kazakhstan, established in July 12, 1927.

Of relevance to the cotton producers has always been the land question. A large part of it was in the possession of *baiys* (Kazakh rich nobility), the landowners, whereas the farmers (the actual cotton producers) had to use the smallest piece of land. From 1925-1926, outland and water reforms were carried out, which resulted in poverty, and the peasants were granted the land (Mukhamedzhanov, 1976)

The most important step in the development of cotton production in Kazakhstan was the collectivization of agriculture. Stalin's policy of industrialization ensured supply of state and collective farms with tractors and agricultural machinery. Organized machine-tractor station, which provided powerful collective agricultural machinery was in widespread mechanization of labor-intensive processes; it facilitated the tremendous

growth of the productive forces in rural areas (Tsamutali, 1962). In order to increase cotton production, it is necessary to increase both the crop area and the yield of cotton. Consequently, in the areas of cotton cultivation, the process of acquiring new lands began, using the old water system more rationally and thus getting rid of the vegetable crops and replacing them with the cotton. Also the increased acreage was accompanied by introduction of the production of the best cotton, the varieties which could give a high yield and proper conduct of land treatment of cotton. In the same period, the chemical industry was providing collective farms, growers of cotton with chemical fertilizers, which began to improve productivity. As a result of these measures taken in cotton production, the yield was noticeably rising (Hwang, 1961; Mokshantsev, 1947).

World War II has caused great damage to cotton growing in the country, for since then cotton growers have been facing great challenges. In cotton growing areas, some of the land allotments used for cotton plants growing were designated for food harvesting. Many cotton harvesters, especially men, were taken as soldiers to the war and the women were left to grow cotton plants, which was difficult. However, despite the challenges of life of that time, the workers managed to maintain cotton manufacture at such level so as to meet the country's needs of the troops (Uchevatkin, 1965).

After World War II, the Kazakhstan cotton growing had to be re-established anew. It had to be developed due to the expansion of crop area in order to gain the increase in crop capacity.

The integrated mechanization in post-war period played a considerable part in developing cotton growing as cotton plants are unquestionably different from other agricultural crops by its labour intensity, especially during the harvesting period.

Within the post-war period, the implemented integrated mechanization has prompted Kazakhstan to shift to the new irrigation system consolidating irrigated plots, which to some extent had to be enhanced to a more developed level of lands.

Initially, the harvesting of cotton plants took place within the small areas of Zhambul (until 1955) and Kyzyl-Orda (until 1957) regions. Then cultivation of cotton plants was stopped due to its low crop capacity (Rodichev, 1959). Cotton plants have been and are cultivated in South Kazakhstan Region (SKR). Its natural and climatic conditions and geographical environment meet perfectly well the requirements of cotton plants growing. The climate is unique due to plenty of local heat and sun exposure.

Increase in lint cotton output required not only the reconstruction of old cotton processors, but also construction of new ones.

In early 1960s, Kazakhstan had only 6 cotton factories, whereas Soviet Union had 116 cotton factories

(Kistauov, 1953).

In 1960, there were 116 cotton factories in the Soviet Union, 6 of which were in Kazakhstan: Great Alekseevskii, Keles, Chimkent, Pahtaaralsky, Turkestan, Saryagash. After the collapse of the Soviet Union in 1991, the remaining 110 cotton processing factories were in Tajikistan, Uzbekistan, Turkmenistan, Azerbaijan and Kyrgyzstan. The Soviet Union consisted of 15 republics. Republics of the Soviet Union (former USSR) comprised Russia, Ukraine, Belarus, Moldova, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Kyrgyzstan, Georgia, Armenia, Azerbaijan, Lithuania, Latvia and Estonia.

It became vital for the development of lint cotton manufacturers to arrange the needed support facilities in the process of drying and cleaning cotton processors. This is due to the increased impurity of raw cotton after mechanical harvesting of raw cotton. The harvested raw cotton had to be dried and cleaned duly, but all available drying facilities were old and useless.

Furthermore, in terms of the operational efficiency of cotton factories, drying and cleaning workshops were under construction at preparatory centres. Preparatory centres were not only receiving and sending raw cotton to the factories, but also dried and cleaned raw cotton, which preserved its natural properties (Asatov, 1985).

Main users of lint cotton are the textile manufacturers having specific requirements of cotton quality. The quantity of low grade fibres was increased in 1950-1960s due to severe impurity of raw cotton caused by mechanical harvesting, while the quantity of choice grade fibres tends to decrease. This was caused not only by the mechanical harvesting policy, but also by the lack of necessary raw cotton cleaning equipment at the cotton factories and preparatory centres. However, it should be emphasized that the high quality cotton lint depends on the grade of cotton plants.

One of the main tasks of that time has always been the introduction of such grades of cotton plants into manufacturing, which would provide the high level of output of lint cotton out of raw cotton, which in itself is an improved quality of raw cotton. The measures taken were improved agronomic practices of cotton plant growing, introduction of checkrowing, as well as equipping purchasing centres and cotton factories with drying and cleaning facilities.

Thus, every period of history of cotton growing development had particular problems with permanent demand for the product and relevancy of cotton plants growing in the national economy. Peculiarities of development of cotton factories consisted of underutilized capacity, the need to build new factories in certain cotton growing areas in order to have them closer to raw material sources and essential equipment of cotton factories with advanced facilities that ensure the manufacturing of high quality lint cotton to meet textile industry requirements (Rakhimov, 1982).

Cotton textile industry analysis in Kazakhstan

After the collapse of the Soviet Union, both Kazakhstan and all CIS states encountered drastic cutback in the manufacturing of cotton (Table 2). Such reduction of cotton plant acreage in Kazakhstan was caused by expansion of wheat crop areas. Indeed, the earlier cotton acreage was used for grain production with the sole purpose of food supply for the entire country.

After gaining its independence and a number of reforms, Kazakhstan cotton cultivation went through numerous changes. The period of 1997-1998 was mainly difficult due to challenges. The efficiency of segmenting the land of former kolhoz and sovhoz (the former government privatized lands) to the businessmen has shown its results in adaptation to the market economy. During that period, governmental support was not even mentioned to the rural economy, the system of water supply has deteriorated along with the seeds cultivation and as a result the market was lost.

After the collapse of Soviet Union, the lands of former large agrotechnical units (sovhoz and kolhoz) were given to smaller farmers on long-term loan with the option of buying it.

The lack of proper farming technology and equipment, plus the knowledge and experience in cotton cultivation and the total absence of any links to the decent suppliers of petrol, lubricant, pesticides and fertilizers have lead to almost a complete drop of cotton production.

Taking into consideration the challenging situation in this agro technical complex, the government decided to take actions. These steps resulted in rise in the crop yield (23100 cwt/ha) in 2005 (Smailov, 2002).

Within this period, the government took other steps, such as the law on the seeds (2003 year), the law on cotton (2007 year) and other lawful acts in regulating the mutual cooperation cotton-growing parties and processing ones.

There were financial investments, subsidies for cotton growers, farmers were given both fuel and lubricants, fertilizers and pesticides on subsidized prices. The process of re-cultivation of elite seeds farms was created purely to raise the quality properties of cotton. A new department of Scientific Research Institution (SRI) has been established for cotton research. All of these means have brought many results. Within a short period of time, 8 new types of high yielding were introduced, as well as competitive cotton plant, whose properties matched and even exceeded some of its abroad competitors within middle fiber cotton types (Umbetaev, 2000). After Kazakhstan gained its sovereignty, all cotton processors were privatized.

In the first years of independence, in the transition to a market economy, all sectors of the economy were paralyzed with crisis. In order to foster a market

Table 2. Cotton manufacturing dynamics in the republic of Kazakhstan.

Year	Raw cotton			
	Crop area, thousand hectares	Gross yield, thousand tonnes	Crop capacity, hundreds kilograms (center) per hectare	
1980	126.5	357.8	28.3	98.2
1990	119.7	323.8	27	99.3
1991	116.4	291.1	25	100.3
1992	112.1	252.3	22.5	84.1
1993	110.6	200.1	18.1	75.3
1994	111.2	207.9	18.7	72.2
1995	109.7	223	20.3	69
1996	106.3	182.8	17.2	79.5
1997	103.6	198	19.1	66.7
1998	118	162	13.7	62.5
1999	141.3	249.4	17.7	66.7
2000	151.8	287.1	18.9	95.5
2001	184.9	417.4	22.5	112.7
2002	170.9	360.7	21.1	137.4
2003	199.9	402.1	20.1	132.6
2004	223.7	467.1	21.3	140.1
2005	204.2	465.0	23.1	156.3
2006	200.1	435.4	22.2	145.0
2007	206.1	441.7	22.1	110.5
2008	178.6	317.5	18.2	133.4
2009	139.8	270.0	19.6	97.2

Source: 1) Industry, Agriculture and Construction in Kazakhstan, 1920 to 2000. Statistical book. –Almaty 2001. 2) Regional state archives and statistics office of SKR RK. Data on raw cotton manufacture in 1990s in SKR RK only.

economy, the process of deregulation and privatization was launched for further development of entrepreneurship and competition in Kazakhstan.

Privatization is one of the important areas of economic reform. The basis of market economic relations is the separation of ownership from the state of privatization of property. A market economy promotes the strengthening of the bonds between producers and consumers.

It is difficult to imagine various small businesses like shops, restaurants that once belonged to the state. Privatization had an innovative character; the decision on privatization was taken only after the collective enterprises were given a special application form of documentation

The first phase of privatization covered 1991-1992. The second phase was in 1992-1995. The first stage of privatization initiated the transformation of state farms overseen by the local work union, the second phase transformation was initiated by the territorial committee dealing with state property and privatization. The third stage of privatization covered 1996-1998. The fourth stage happened in 2000-1999, the fifth stage was in 2001-2002. The sixth stage was in 2003-2005. The main purpose of privatization was the achievement and

consolidation of the predominance of the private sector in the economy through the implementation of sectoral programs of privatization in sectors such as oil and gas industry, energy, transportation, communications, ferrous and nonferrous metallurgy, agriculture, health, public education, science and culture.

Prior to the implementation of the privatization of all cotton processing enterprises, they were state owned. These factories took raw cotton from the cotton producers for the price which was originally appointed by the state. However, the state had always been seeking to establish a price that would be profitable for cotton producers and refineries. After the privatization, all the factories were privatized and transferred to private ownership and they began to dictate their own prices based on world market prices. In other words, for some individual businesses the new era of market economy dawned with all its rules and terms where everyone survives, instead of hoping for help from the state, as it used to be. After privatization, cotton producers remained in an extremely difficult position. A major cotton producers are farmers (former employees of collective and state farms that existed during the Soviet Union), who divided the land of former collective unions and state farms among themselves. Each farmer

owned only 5.10 hectares of land. Naturally the land was insufficient to do efficient production of cotton with all necessary agricultural technology for this crop growing. Funding deficit has forced the industry to intensify cotton producers and consequently to increase cotton production by expanding cultivated areas.

With the growth of volume and harvest, the cotton producers passed on cotton processing factories. And factories, in turn, processed raw cotton into cotton fiber and then sold in foreign markets. As a result, the local textile mills were idle because of lack of cotton fiber and gradually became unprofitable.

Realizing the difficult situation in the cotton sector agribusiness, the government of Kazakhstan has adopted several measures to growing cotton such as: the law of the seed (2003), the law of cotton (2007) and a number of regulations governing the relationship between cotton producers and cotton factories.

Given the growth of the unprofitable textile industry, the government decided to establish a free economic zone "Ontustik" for the efficient operation of cotton-textile cluster (http://rus.textilezone.kz/sez_ontustyk/). According to the cotton-textile cluster, cotton producers will offer their grown cotton to the cotton processing factories, and plants having received the cotton fiber instead of sending it for export, they would send it to textile garment enterprises. As a result it would become a finished product which then could be exported.

Thus, Kazakhstan seeks to export not raw materials but finished products. According to the calculations by the scientists, the experts of cotton market state that from 330 tones of raw cotton, 100 tons of cotton fiber were obtained; whereas from 100 tons of cotton fiber, 90 tons of carded yarn were obtained and from 90 tons of carded yarn, 600000m l of tissue was received and finally from 600000m l of tissue, 170 thousand garments were obtained (Ter Avanesyan, 1973).

The key manufacturers of raw cotton are farms possessing land allotments with 5 to 10 hectares area. Within the given area there was literary not enough space for effective manufacture, that is, it was bound to fail to comply with all necessary agrotechnical measures aimed at increasing productivity and improving quality of cotton. Treatment with mineral and organic fertilizers was reduced, and no crop rotation was applied. A big portion of cotton growers did not use organic fertilizers because they considered mineral fertilizers to be sufficient. Mineral fertilizers must be treated along with organic ones, though (Tulemetova, 2004).

Cotton processors (cotton factories) began to invest into raw cotton manufacture. So, farms received loans from cotton processors in spring prior to cotton planting. Then, in autumn, they reimbursed the money received from harvest. As a result, raw cotton manufacturers were suffering losses as compared with processor owners. Thus, the number of cotton processors

companies was increasing every year. If in 1998 there were 14 raw cotton processors in the Republic of Kazakhstan, in 2003 there were 19, and in 2008 there were 22 processors already. There was a strong disbalance between cotton manufacturers and cotton processors. Raw cotton processors became the monopolists at the cotton market, administering their own purchase prices. More than 90% of cotton production of received lint cotton was exported whereas less than 10% were used domestically (Tortaev, 2004). Many textile factories stood idle because of lack of raw materials and depreciation of facilities. In 1991 the industry operated at a profit level of 24.4%, then from 2008 the industry suffered even more losses, although in the last 5 years there was a drop in loss ratio (Table 3).

According to Kazakh Cotton Association, expenditures on one hectare increased almost threefold within the last four years. Thus, if in 2004 farmers spent 38 to 40 thousand KZT (tenge) to grow cotton plants per 1 hectare (disregarding the harvesting campaign expenses), then in the following year this index was 100 to 105 thousand KZT per hectare (Yelisseyev, 2009). Obviously, inflation and energy supply price rose in the world market in 2004 to 2008 which led to drastic appreciation of operating and natural resources. As a result, diesel- fuel and mineral fertilizer prices increased as well. There is a need for relevant infrastructure containing production of domestic mineral fertilizers consistent with the agricultural demand, as well as legal regulation of relations in the field of protection and enrichment of agricultural soil.

For the purpose of government support of domestic cotton growing, the act on development of cotton industry was adopted in July 2007. The act defined explicitly the norms for providing allocation of budget funds to some portion of cotton-growing expenditures along with the creation of seed resources and for timely holding of reclamation and irrigation operations. With the government support, Kazakhstan Research Institute (RI) of Cotton Growing started to operate at Maktaaral District of South Kazakhstan Region and primary processor of raw cotton, JSC Cotton of Kazakhstan with capacity of 60 thousand tonnes of raw cotton a year was launched. The latter has to purchase raw cotton at government-fixed prices, that is, to contain monopoly price collusion involving cotton processors dictating own terms when purchasing raw materials from cotton growers.

Once this act in the country was in force, the system ensuring obligations fulfillment of payment on cotton receipts was introduced. Cotton receipts are order not currency securities – double warehouse receipts consisting of warehouse and subscription certificates. The holder of cotton receipt, after delivering cotton for custody or processing, may dispose of cotton by its realization or give it as security to creditors. Clause 17

Table 3. Key indicators of textile and garment industry operations.

Indicators	Year					
	1991	2000	2005	2006	2007	2008
Volume of manufacturing output, MM KZT	15798.4	37422	39759	39564	28548	24720
Index of physical volume of industrial production, in % to previous year	102.5	206.3	114	102.7	81.6	110.4
Share of production in total volume of industrial production, %	18.5	2.1	0.8	0.6	0.4	0.2
Index of prices of manufacturers: in % to previous year	324.4	138	99.8	101.2	101.2	116.7
Level of profitability (loss ration) of the industry, %	24.4	-13.7	-8.3	-5.6	-6.7	-4.5
Capital investment, MM KZT,	153	410	7526	5999	1618	513
% to previous year	-	43.5	91.3	75.9	25.7	29.5

Source: Agency of Republic of Kazakhstan for statistics (Niyazbekova et al., 2006).

of act "On development of cotton industry" binds cotton processors to secure fulfillment of their obligations to the holders of cotton receipts through participation in the system assuring fulfillment of their obligations. It is based on the participating contract to be concluded by and between cotton processors and fund assuring fulfillment of obligations on cotton receipts. During participation in the fund, the cotton processor should make annual contributions to the fund for participation in the system assuring fulfillment of obligations on cotton receipts. The rate of such annual mandatory contributions was 0.2% of total volume of raw cotton. But, in the opinion of raw cotton processors, such a rate was too high. Therefore, it was marked down to 0.1% in 2009.

Experts of cotton growing research institute believe that irrigation of lands should be stimulated in order to raise profitability of the cotton industry. One of the ways of solving this problem is to apply new technologies of cotton plants sowing. The most effective way is to intersow cotton plants with 70 cm spacing. The advantage of this scheme is that the reduction of spacing by 20 cm releases up to 20% of fertile irrigated lands that can be sown with other agricultural crops, particularly grain. If it is remembered that one irrigation hectare can bring in more than 50 hundreds kg of grain per hectare, then we can get more than 200 thousands tonnes of grain. This makes 1/3 of community needs of SKR. This approach will become the substantive measure in securing food safety in the country and will not impact on the volumes of cotton output.

Cotton plants have two main species of pests – red spider and cotton worm. Every year they destroy up to 10% of harvest. The government allocates millions of tenge to chemical treatment, thousands tonnes of pesticides are sprayed on the fields. Consequently, the ecology gets worse, local peoples' health is impacted, the soil gets poisoned. There is a more effective and absolutely safe biological method of pest control, that is, using entomophages. These are insects that are natural antagonists of red spider and cotton worm eating their larvae. However, biological control method is absolutely

in disrepute with cotton growing farms. They consider it a too troublesome and a painstaking work.

Another secret of successful cotton growing is defoliation, that is, special treatment of ripe bushes to have the leaves fall off. It helps using mechanized harvest most efficiently. However in SKR, mechanized harvest is applied by few farmers only, as others apply manual labour.

The harvesting itself has been the most difficult part for cotton growers. Firstly, the harvest campaign starts well after the usual time due to weather conditions (rainfall) resulting in replanting of seeds. Thus the sowing campaign of cotton growers finishes only in June. Secondly, there is a lack of necessary harvesting equipment. Thirdly, there are the cotton-picking labourers. Earlier, they were a hired labour force from Uzbekistan for cotton harvesting. They were paid ranging from 2 to 4 tenge per kilogramme of picked raw cotton in different years. Local residents are reluctant to get this hard and low-paid work. In recent years Uzbekistan pays considerably more to cotton-pickers, so those wishing to go to SKR to harvest cotton became fewer. Currently, raw cotton-pickers are paid 7 to 9 tenge per kg. However, this rate did not cause increase in the number of cotton-pickers. Last year about 40% of the harvest was left on the fields at Otrar District of SKR due to the lack of labour force for cotton harvesting. In recent years, there had been cases when schoolchildren were involved in cotton fields on a voluntary-compulsory basis which has been noticed to be somewhat frequent and had an adverse effect on their academic credits.

Thus, the main link of optimal functioning of textile industry in the republic is the raw materials along with its volumes and quality.

The textile industry (especially weaving industry) looks good against other sectors of light industry. Kazakhstan has a well developed manufacture of cotton fabric as compared with wool fabric (Table 4). Moreover, linen fabric is not manufactured due to lack of raw materials.

Despite the fact that Kazakhstan witnessed the

Table 4. Fabric manufactured in Kazakhstan in 2004 to 2008.

Fabric manufactured	Year				
	2004	2005	2006	2007	2008
Cotton fabric – Total, thousand square metres(ml)	16400.6	30440.5	47639	42423.3	42013.9
Wool fabric – Total, thousand square metres(ml)	110.0	176.0	110.1	74.5	75.7
Linen fabric – Total, thousand square metres(ml)	-	-	-	2.9	-
Fabric other than special one from chemical fibre – total, thousand square metres (ml)	3791.3	4913.7	8705.9	459.6	396
Pile fabric, terry cloth and other special fabric - total, thousand square metres(ml)	-	-	4.6	365	994
Fabric – Total, thousand square metres(ml)	20301.9	35530.2	56459.6	43325.3	43479.6

Source: Industry in Kazakhstan and its regions in 2004 to 2008, statistical book, Astana 2009.

Table 5. Fabric export and import in Kazakhstan in 2004 to 2008.

Year	Cotton fabric, thousand square metres				Wool fabric, thousand square metres			
	Export		Import		Export		Import	
	CIS	Other world countries	CIS	Other world countries	CIS	Other world countries	CIS	Other world countries
2004	301.1	9943.1	17171.5	2988.1	-	199.5	478.9	278.7
2005	1085.7	21609	7162.1	5465.7	-	85.1	282.5	100.3
2006	2300.3	36073.9	12725.1	12285.1	-	-	240.9	268.1
2007	974.2	32726.5	7923.1	3803	-	-	400.5	163.4
2008	3151.1	40259.4	7843.1	3997.6	-	-	399.6	281.7

Source: Resource balance and utilization of certain kinds of goods (raw material) in 2004 to 2008, statistical book. Astana 2009.

increase in volume of fabric manufacture since 2004, the trend of import of wool and cotton fabric continued (Table 5). Kazakhstan has a well developed number of cotton fabric manufacturers. In this respect, export of cotton fabric is tending to increase every year mainly to other countries of the world rather than to CIS states because Russia, among CIS states, has a developed textile industry producing various types of fabric, including linen. As compared with cotton, wool production in Kazakhstan leaves much to be desired.

Kazakhstan imports products made after high-level processing of wool, namely yarn, fabric and carpet articles. This fact is relevant due to lack of high-level wool processors in the territory of the republic. Wool is exported from Kazakhstan in the form of washed and unwashed wool. If we are to look at dynamics of wool export in the recent 3 years, we have to emphasize the decline in crude wool export in 2007 by 66%. In 2008 as compared with 2007 the export volume has increased by 6%, whereas there is a decline in volume of washed wool by 12%. Currently, wool processors have no opportunity to purchase fine wool produced in the republic due to lack of operating assets related to high interest rates fixed by banks and the financial crisis. Low quality wool is purchased from small farms or

private part-time farms. It should be emphasized that quality washed wool is exported abroad, generally to China and Russia.

According to Republic of Kazakhstan's Agency for statistics, there are 14 existing registered and active enterprises engaged in preparation, spinning and production of wool fabric and production of knit fabric in the territory of Republic of Kazakhstan. In the textile industry of the republic there are 497 enterprises registered as of the 1st of January, 2010, out of which 155 active enterprises, including 12 large-scale, 24 medium and 119 small enterprises employing 7,200 workers (Report of Light Industry Association of Kazakhstan under the United States Agency for International Development (USAID) grant programme for improvement of business environment 'Investigating Small and Medium Business Issues in Light Industry of the Republic of Kazakhstan', 2010).

In the long run, implementation of export of wool and its conversion products is of economic concern as a source of revenue. Recovery and development of raw material bases of existing industrial enterprises specializing in processing of wool, lamb skin, woolskin, rawstock, carpet and other articles manufacture is considered of significant importance. It would promote

strengthening of the regional economy in general.

Necessity and conditions of development of cotton textile cluster in Kazakhstan

Despite the existing problems in the industry, textile industry of Kazakhstan has the potential for successful development taking into account lower indicators of costs of production, proximity to raw materials and potential markets sales of output products.

The quick-spreading number of cluster initiatives both in developed and in developing countries and throughout the world reflects their efficiency and viability.

According to M. Porter the traditional division of the economy into sectors or industries loses its urgency in the modern economy, especially in terms of globalization.

Michael Eugene Porter — Professor of Business Administration at Harvard Business School, a recognized expert in the field of economic competition, including competition in international markets, competition among countries and regions developed the theory of competitive advantages of countries. He has spent a great research into over 100 industries in different countries.

Porter, as a promoter of the concept of economic clusters, showed that the competitiveness of the company, largely determines the competitiveness of its economic environment, which, in turn, depends on the basic conditions and competition within the cluster.

Porter has developed a widely known method of analysis of competitiveness, but also he described it as the growth stage of national economic competitiveness (the stage of "primary factors" such as cheap labor, to the stage of the competition through innovation and the last stage is the competition on the basis of wealth).

According to Michael Porter, the stronger the development of competition in the domestic market is the higher requirements of buyers are and the more likely the success of companies from that country in international markets will be (and vice versa, the weakening of competition in the domestic market usually leads to loss of competitive advantage). Porter's fundamental book *The Competitive Advantage of Nations* was published in Russian under the title "International competition" (Wikipedia, the free encyclopedia// <http://ru.wikipedia.org/wiki>).

At the invitation of the Presidential Administration, Mr. Michael Porter visited Kazakhstan in January 2005. Porter's visit was planned within the project "Kazakhstan's competitiveness and prospects of cluster development". According to the draft study all non-extractive industries and industry sub-sectors of the economy were researched in order to identify their prospects for growth and development assistance. The analysis identified 7 clusters which became the pilot of

the concept of cluster development. One of these clusters was the cotton-textile cluster of the country for successful operation with the necessary conditions.

One of the major obstacles in implementing economic reforms in Kazakhstan, M. Porter calls "the mentality of citizens." In Kazakhstan, in his opinion, there is a tendency, when the population is waiting, "when the government should provide funds and everything else." M. Porter believes that "the citizens of Kazakhstan should take responsibility for the further development of their country." "In this case, the government should play a supportive role" - concluded M. Porter (<http://news.gazeta.kz/art.asp?aid=194161>).

Clusters, that is, the systems of interrelations of firms and organizations take the first place. Hence, the main difference of cluster from territorial production complex. The cluster takes into account the market mechanism; it can be efficient only when created on the shop floor initiative, when enterprises arrive at the necessity of clustering in order to increase their competitive advantage.

The phenomenon of economic development clustering started to get attention not only because of scientists and experts' views but also of governments of different countries, thus turning into the basic element of economic policy for many countries. All the industries and companies having social and economic relations, either horizontal, or vertical, are the constituents of the cluster.

For the purpose of development of textile industry, president of the Republic of Kazakhstan issued an order no. 1605 dated 06.07.2005 about creation of Ontustik Special Economic Zone (SEZ) in South Kazakhstan Region (SKR), which is the basis for development of cotton textile cluster in Kazakhstan, because South Kazakhstan is the only cotton growing region of Kazakhstan.

Ontustik SEZ is created to attract investors to textile sector that is promising for the region and for Kazakhstan in whole. About 15 textile factories processing 100 thousands tonnes of cotton a year are planned to be built in the territory of SEZ, and more than 10 thousand working places will be created. President of the Republic of Kazakhstan issued an order No. 683 dated 23.10.2008 on extending the validity of Ontustik SEZ until 01.07.2030 so that textile factories could reach self-sufficiency and develop their production from within.

For the purpose of development of Ontustik SEZ the Republic of Kazakhstan government regulation no. 895 dated 21.09.2006 approved Ontustik SEZ Development Programme for 2007 to 2015. The programme is certainly one of the steps of Kazakhstan towards the top fifty competitive developed countries and is a long-term strategic document outlining the main trends of development of textile industry and ways to increase its marketability. Creation and promotion of the trade mark

"Textile of Kazakhstan" is declared as the ultimate purpose of development of Ontustik SEZ as a backbone component of cotton textile cluster. The set purpose is assumed to be achieved in 3 medium-term stages, mainly through extensive attraction of domestic and foreign investments to Ontustik SEZ.

The funds from republican budget, own resources of investing enterprises, the funds of the Samruk-Kazyna, the fund of national welfare JSC, the funds of South Kazakhstan regional budget would be allocated to Ontustik SEZ development programme.

Republic of Kazakhstan started building of Koksaray reservoir that will accumulate winter water flows for the purpose of irrigation water supply of cotton fields. Moreover, one of the ways to save water resources must be through the introduction of water collection technologies, for example, drop irrigation. In 2011 it is planned to expand crop area of cotton plants applying drop irrigation.

Currently, we have the task to increase the gross yield of cotton plants by cutting its crop area and increasing its productivity. However, in some cases more than a half of crop area of cotton plants is being planted with seeds of unknown origin smuggled into the country, which affects the crop capacity and cotton quality. Cotton pick-up sections allow for standard violation. When picking raw cotton, the level of impurity, percentage of moisture and grade should be determined. Then raw cotton should be stored separately by grades, which requirement is currently met partially or not met at all. As a result, returned raw cotton of different grades of cotton plants that differs from each other in a range of parameters becomes mixed after being processed at cotton processors. The result is that the fibre is often lacerated when processed for yarn, which causes lots of waste and degrades the quality of finished goods.

In this connection, at the first stage agricultural commodity producers, first of all, should have heavy yielding seeds of cotton plants and advanced equipment. A cotton plant seed factory was scheduled to be built in 2008 to the amount of 1700,4 million KZT (postponed until 2012 due to economic crisis that began to have effect in 2008) and a machine service station in SKR in 2010 to the amount of 1794 million KZT (Aitakhanov, 2009). However, according to department of agriculture of SKR, the launch of seed cleaning plants in Maktaaral District of SKR is planned till the end of 2010.

Subsidies play important role in mechanisms of government regulation of the agricultural sector. In this regard, the public policy in the support of agricultural farm producers placed an emphasis on the support of innovations starting in 2010.

Differentiation of standards and additional requirements to their beneficiaries should strengthen the promoting influence of subsidies. Thus, farming faces

the increase in crop area and in volumes of production of oil crop, vegetables, fruit and grape types that the country is running a deficit of. Progressive cultivation technologies have always been most welcomed. Funding of mineral fertilizers cost is assigned to a separate budget programme, while fertilizers produced in Kazakhstan are given preference. Funding mechanisms have been changed, as well. To illustrate, cotton growers with the workarea less than 50 hectares of cropland would receive less subsidies than the farmers engaged in horticulture and winegrowing in the area not less than 5 hectares would receive twice as much subsidies. Besides, the subsidies will be paid in two stages. The first stage will be 70% per 1 hectare of planted area by results of sowing campaign. The second stage will be 30% per 1 tonne by results of harvesting and returning of products to processors. This measure will, on one hand, aid cotton growers to receive maximum harvest and, on the other hand, it will furnish all existing cotton processors with maximum volume of raw materials. The standards of subsidies will be doubled for cotton growers applying drop irrigation.

Therefor the state has decided to motivate farmers for active cooperation, complying with crop rotation and introduction of farming standards.

Creation of SEZ for high-level processing of cotton raw materials will promote the value chain of textile production, as well as the attraction of private investment and the introduction of new technologies. Currently Ontustik SEZ is regarded as the basis of development of cotton textile cluster, which will help Kazakhstan textile enter the world markets. However, SEZ does not take into account, at first, the availability of raw material base of chemical fibres and secondly the development of educational and research institutes.

The raw material base for cotton textile cluster is natural and chemical fibre. Lint cotton in the form of natural fibre is sufficient, which is different with synthetic fibre. Surely, 100% cotton goods are in demand, but the world market prefers recently such fibre that contains 2% elastane and 20 to 25% polyester making it more elastic and practical to wear. However, 100% natural fibre goods do not maintain their initial form after the first washing.

In this connection there is a necessity in parallel development of textile-adjacent industries, and, primarily, of petrochemical industry.

As mentioned before, Kazakhstan Research Institute of Cotton Growing engaged in breeding of new types of cotton plants and development of new innovation technologies applied beginning with its cultivation in Maktaaral District of SKR on the basis of Maktaaral experiment station. It was originally planned to create a national laboratory for testing of cotton quality and providing access to marketing researches of cotton industry. However, this one facility is not enough if we want to enter the world textile markets.

To start with, only 15% of farm managers engaged in cotton plant growing have degrees in agriculture. Therefore, it is necessary to open the currently operating school on the basis of Research Institute of Cotton Growing for the purpose of professional training for farmers. The benefits from new technology will have to be explained to the farmers. International Cotton Advisory Committee, the member which our country became in 2006, resolves this issue throughout the world. As a rule, local advisory committees are organized as part of Research Institute of Cotton Growing and receive budgetary funding. For example, in China every thousand cotton hectares has its own advisor. We would like to have at least 3 to 4 persons to adopt a role of coordinator.

Another crucial condition of successful development of textile manufacture is the availability of quality human capital since currently the economic growth is identified with technological advance and primarily with professional quality of labour resources. Therefore we recognize such elements as universities, colleges providing professional staff for the industry.

Currently, there are few new textile manufacturers in South Kazakhstan Region that indeed lacks greatly engineers, operators, technologists, weavers, sowers etc. Kazakhstan possesses sufficient amount of labour force yet requiring further training and education in the field of textile production since this is the prevailing tool of competitive ability of cotton textile cluster. Over the long term, textile departments should be opened at universities, expenses for industrial and research works and training of experts both domestically and abroad should be increased. In whole, successful development of cotton textile cluster must be emphasized in part of active interaction with universities and research institute of cotton growing.

Conclusion

Independent innovation economy is not possible without the balanced development of processing industries that could be able to compete in the market of finished goods promoted by cluster-based approach in the industry. Cluster development as a tool of competitive recovery of regions, innovation development in the economy are a new approach in the regional development of the country. The main purpose of Kazakhstan cluster initiative is the creation of conditions for the maximum use of competitive advantages of Kazakhstan in the development other than the raw material sector of the economy based on attraction of private business structures to the sphere of industry.

According to the results of competitive advantage analysis in our country experts determined seven industries that are most ready for clustering. The cotton textile cluster in the south of Kazakhstan must become one of prospective trends of industrial development.

Cotton growing is one of the key industries of agriculture in South Kazakhstan Region, where inhabitants of 7 districts are engaged in production of raw cotton.

The state of production of infrastructure and pricing policy that depends directly on correct state support has a significant influence on the cotton industry development in the market. The increase in output and certainly quality of cotton products can be achieved only with the state support of cotton industry.

A cotton textile cluster, which is based on Ontustik SEZ was created in Kazakhstan for recovery and development of competitive environment in the textile industry. The main purpose of Ontustik SEZ is to create conditions for the development of textile and sowing industry, as well as to create prerequisites for a shift to production of value added competitive goods, which exempts the investors from income tax, property tax and land tax, customs duties up to 2030.

According to Ontustik SEZ development programme, the integrated service engineering centre (ISEC) is expected. It will train and improve skills of experts on newest equipment, researches, certification in compliance with international standards of textile products. The laboratory research centre is planned to be opened at ISEC for the purpose of research works and experimental production.

By end of 2012, 15 textile industry enterprises are planned to be finished and about 11 new working places are planned to be created. The initial term of validity of Ontustik SEZ was fixed until 2015. However, taking into account the capital capacity of textile industry and consequences of economic crisis the term of validity was extended until 2030. In broad terms, operation of cotton textile cluster will promote rehabilitation and development of Kazakhstan textile industry.

REFERENCES

- Aitakhanov K (2009). How to make cotton eligible for export? // *Kazakhstanskaya pravda*, 07 january, pp. 2-3. kova RK, Utarov AK, Tulemetova AS, Talassov MZh (2006). Transformation of import substitution process and support of economic growth. Shymkent, pp. 126-130.
- On the Special Economic Zone "Ontustik" // http://rus.textilezone.kz/sez_ontustyk/
- Rakhimov E (1982). Economic problems of intensification and NTP in the cotton industry. Tashkent, pp. 14-16.
- Report of Light Industry Association of Kazakhstan under the United States Agency for International Development (USAID) grant programme for improvement of business environment 'Investigating Small and Medium Business Issues in Light Industry of the Republic of Kazakhstan', (2010). Astana, pp. 7-9.
- Rodichev SD (1959). Raw material base of cotton trade, Moscow, pp. 63-66.
- Smailov A (2002). Regions of Kazakhstan // *Statistical Yearbook*. Almaty, pp. 222-224
- Ter Avanesyan D (1973). Cotton. Leningrad, pp. 223-225.
- Tortaev B (2004). *Statistical Bulletin - Foreign trade and joint ventures* RK, pp. 221-223

Tulemetova A (2004). On the processing of raw cotton in the South Kazakhstan region. / Log Sayasat number 8 p.42-43
Uchevatkin F (1965). Handbook of Cotton. Tashkent pp.455-465
Umbetaev E (2000). The system of cultivation of cotton in the south of Kazakhstan, pp. 117-120

Voronov A (2002). Clusters - a new form of industrial organization in a competitive / marketing magazine № 5.pp. 37-43
Wikipedia, the free encyclopedia// <http://ru.wikipedia.org/wiki>.
Yeliseyev Yu (2009). Cotton law destroys cotton//Liter 18 March, pp. 4-5.