

6th BACSA INTERNATIONAL CONFERENCE
“Building Value Chains in Sericulture” -
“BISERICA” 2013
Padua, Italy April 7th – 12th 2013

**“CONDITION OF THE SILK INDUSTRY: PROBLEMS,
ISSUES AND POLICIES IN THE COUNTRIES OF
CENTRAL ASIA (KAZAKHSTAN, KYRGYZSTAN,
TAJIKISTAN, TURKMENISTAN AND UZBEKISTAN)”**

By:

Professor Homid ibn Soky Homidy

International Expert & BACSA vice president for Central Asia

E-mail: khomid_khomidy@mail.ru

INTRODUCTION



The Silk Road had a great influence on the formation of political, economic and cultural order of the countries through which it passed. Along all its routes large and small trading towns were appearing. Especially many caravan routes went through Central Asia. History of Sericulture on the territories of modern Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan dates back to the V-VI century. Special development of sericulture in the region took place during the period of the Soviet government

INTRODUCTION

- The main producers of a cocoon, silk of a raw and silk product are the Asian Countries: China, India, Uzbekistan, Vietnam, Thailand, Iran, Tajikistan, Turkmenistan, Pakistan, Indonesia and others. China annually is produce about 70 % from the total world volume. In the Central Asia countries Uzbekistan is the major producer with its share of about 80%.



Previous condition of sericulture in the region

Previous condition of sericulture in Central Asia

Countries	Favorable years for sericulture	Number of mulberry and plantations		Production of silkworm eggs, boxes	Production of fresh cocoons, tons	Production of silk yarn, tons
		1000 tree	ha			
Kazakhstan	1985	3388	1863	0,000*	248,5	0
Kyrgyzstan	1991	7362	2269	43574	854,4	122
Tajikistan	1991	54797	47579	156260**	4528	550
Turkmenistan	1991	56620	41870	178603	3896,8	472
Uzbekistan	1991	109964	38116	1500100	33500	2564

*Kazakhstan imported from Uzbekistan 11632 boxes/year of silkworm eggs.

** Tajikistan imported from Uzbekistan annually about 20% of the total amount of required silkworm eggs.

Previous condition of sericulture in the region

Crash of SU and independent for each young countries of region has led to the disruption of many industries, including sericulture. As a result, production of cocoons in Tajikistan and Uzbekistan declined by half, in Turkmenistan retained only one-third of the production, and in Kyrgyzstan and Kazakhstan sericulture, as industry, has ceased to exist since 2001.

Countries at different times made decisions to restore and develop the agricultural sector, including the sericulture.

- In Uzbekistan, in 1998 was established the association “Uzbek Silk”.
- In Tajikistan (2004) by the Ministry of Industry was established the “Tajik Silk” association.
- In Turkmenistan (2005) under the Ministry of Textile Industry was created a joint-stock company «Turkmen Silk».

REVIEW OF SERICULTURAL STATISTICS

2008 ~ 2012

Current condition of sericulture in the region

Condition of sericulture forage reserves in the countries of the region 2008-2012

Countries	Number of mulberry trees and plantations (years)									
	2008		2009		2010		2011		2012	
	Number of trees	Plantations (thousands ha)	Number of trees	Plantations (thousands ha)	Number of trees	Plantations (thousands ha)	Number of trees	Plantations (thousands ha)	Number of trees	Plantations (thousands ha)
Kazakhstan	1752	0,33	1783	0,34	1961	0,36	1971	0,37	2109	0,47
Kyrgyzstan	2454	1,74	1636	1,45	1363	1,21	1239	1,1	-	-
Tajikistan	18776	1,48	18463	1,54	18715	1,6	17200	1,62	16834	1,85
Turkmenistan	22244	2,31	22130	2,5	22089	2,6	19920	2,62	20860	2,73
Uzbekistan	69964	41,1	72163	44,8	72560	48,5	73000	52	76000	55

Current condition of sericulture in the region

Production of hybrid silkworm eggs

The majority of Central Asian countries, with exception of Kazakhstan, have modern and well equipped silkworm eggs production factories.

- ┌ **Kazakhstan** used **70-120** boxes/years, buys silkworm eggs for the price of **5, 25 USD/box** from Uzbekistan.
- ┌ **In Kirghizstan**, in Osh province, exists a factory with production capacity of **57050 boxes/year** silkworm eggs, but unfortunately it stopped its activity in 2001.
- ┌ **Tajikistan** used **135000** boxes/years, has two silkworm production factories: Dushanbe SGF has production capacity of more than 55000 boxes/year, and Khojent SGF with capacity 52 000 boxes/year. Production of camacho silkworm hybrid eggs in Tajikistan has reached around 26,0% a year, while more than 70 % of the necessary amount of silkworm eggs have been imported from China at the price of **8,95 USD/box**.

Current condition of sericulture in the region

Production of hybrid silkworm eggs

- **Turkmenistan** used **180 000** boxes/years has two silkworm production factories: Mary GF with a capacity of more than 65 000 boxes/year and Lebap SGF with a capacity of about 60 000 boxes/year. As a result, in 2008 only **18 %** of hybrid eggs were produced, and in 2012 silkworm production factories of the country provided **54 %** of the required from producers amount of cocoons and the rest (46 %) was imported from China at the price of **8,51 USD/box**.
- **Uzbekistan** used around **1 000 000** boxes/years, has the leading silkworm eggs production industry in region, with the following infrastructure: 3 sericulture breeding stations, 14 silkworm hybrid eggs production factories and Sericulture Research Institute. As a whole, grainage capacity of industry in country is more than 13 000 000 boxes of silkworm eggs yearly. Uzbekistan has the richest genetic resources of silkworm maintained and multiplied in Sericulture breeding stations for more than 20 highly productive silkworm breeds. Due to the high yield of the new local silkworm hybrids, each year import of silkworm eggs is reducing. During recent years, purchases of silkworm eggs from China amounted to about **30%** of the total amount.

Current condition of sericulture in the region

Production of fresh cocoons

Countries	Quantity of produced fresh cocoons (tons)				
	2008	2009	2010	2011	2012
Kazakhstan	1,64	2,07	2,33	2,54	2,67
Kyrgyzstan	0	0	0	0	0
Tajikistan	3020	3124	2784,6	1351,6	3118
Turkmenistan	4000	4038,3	4025	4005,3	3865,5
Uzbekistan	23443	23972	25159	25171	25000

Current condition of sericulture in the region

- **In Kazakhstan**, with the support of the Government, after the restoration of mulberry plantation in South Kazakhstan Province, silkworm rearing was carried out and 21,17-23,43 kg/box cocoons were produced. These results create a possibility of development for sericulture in these provinces. At the same time, creation of an enterprise for cocoon post harvest processing remains unresolved.
- Almost the whole population of **Tajikistan** is engaged in sericulture. 52-55 % of cocoons are produced in the northern part of the country, in the Sagdian region, while the rest of 35-38 % comes from the southern part of the country, mainly the Khatlon region. Every year more than 60 000 families are engaged in cocoon manufacturing. For one season of silkworm rearing, farmers are producing 24-28 kg/box fresh cocoons, with the payment of 2,7 USD/kg, their income makes 140-160 USD/season.

■

Current condition of sericulture in the region

- **Turkmenistan** in 2005, after the establishment of joint-stock company «Turkmen Silk» by the Ministry of Textile Industry, set a goal to reach 4000 tons of production of fresh cocoons. More than 80 000 farmers are occupied in cocoons production every year. Each farmer produces per rearing season around 2,2 boxes of silkworms. Average productivity of cocoons amounted to 23-25,5 kg/box. At the price of 2,9 USD/kg.
- **Uzbekistan** is among the five biggest manufacturers of silkworm cocoons. Share of the Republic in the total production of silk in Central Asia is more than 85%. There are 18 silk processing enterprises, 7 cocoon reeling factories, 5 silk-weaving enterprises of different ownership forms. To meet the needs of these enterprises with raw materials, producing more than 25,000 tons of fresh cocoons annually is required. Almost all the 14 provinces of the country are involved in production of cocoons. During each silkworm rearing season more than 400 000 farmers are engaged. The yield of cocoons is ranging between 25-28 kg/box. The purchase price of sorted fresh cocoons is 2,5-2,6 USD/kg

Current condition of sericulture in the region

- Cocoon post harvest processing, production of raw silk and finished goods

Production of silk products in Central Asian countries in 2011

Countries	Dry cocoons		Raw Silk		Production of fabrics		Production of hand graft	
	Tons	Price USD/kg	Tons	Price USD/kg	M2	Price USD/m2	Q.ty of assor.t	Total: USD
Kazakhsta	0,902	-	-	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-	-	-	-
Tajikistan	483	7,56	153	38,23	15 000	7	60	2200000
Turkmenist	1433	6,86	453,4	38,88	70375	6,5	65	2627000
Uzbekistan	9013	7,1	2123	39,52	563 000	5,8	60	4734600

PROBLEMS FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES OF REGION

- They can be divided to internal, regional and external.
- **Internal problems**
- Absence of governmental policy and investments for revival and development of traditional sericulture in the countries. For example, the present government of Kirghizstan does not undertake any actions for revival of sericulture, while in Kazakhstan, in 2005, a decision about revival of sericulture has been accepted by the government. On this basis mulberry plantations have been partially restored, about 200 hectares of plantations were created. Some of the problems remain unsolved, such as increase of cocoons production, cocoon post harvest processing, production of raw silk and marketing.
- Providing independence of each country in highly productive hybrid silkworm eggs. Silkworm eggs production in Tajikistan, Turkmenistan and Uzbekistan provides only 55-70 % of the needed for the silk industry amount of hybrid silkworm eggs, the rest has to be imported from China. Research studies on nurture of new silkworm breeds, selection and breeding of silkworms in these countries are being very passive.
- It is necessary to regulate price of fresh and dry cocoons for stimulation of farmers. Sericulture farmers are not satisfied with the prices for fresh cocoons (2,5-2,9 USD/kg). Suppliers, in turn, are not satisfied with low prices for dry cocoons (6,8-7,5 USD/kg), which is offered to them by processing factories.
- The high price of energy resources (gas, electricity and fuel), taxes and the low sale price of finished goods on home market.

PROBLEMS FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES OF REGION

- **Regional problems**
- The major constraint consists in the fact that commercial relations and cooperation in science, technology and training are being absent. An example of this might be:
- Spreading of especially dangerous pest, namely: *Glyphodis pylailis Walker* on mulberry plantations of Tajikistan and Uzbekistan. Its damage for each country can be counted in hundred thousands dollars a year, but, unfortunately, no common prevention measures are being undertaken. As a consequence, pest can freely spread on mulberry plantations from one neighboring country to the other.
- Loss of traditional technology of silk handcrafted products: different materials, carpets and other traditional products of the region.
- **Problems with external partners**
- Partners of Central Asian countries are: China, India, South Korea and Japan, but China is the main one. Partners are mostly using them as a source of raw materials: dry cocoons, raw silk, waste after cocoon reeling, which are being purchased at low prices. In exchange, they sell them at higher price silkworm hybrid eggs of bad quality, machineries and equipment.

NATIONAL STRATEGIES FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES

Plan production of hybrid silkworm eggs in the region for 2013 - 2017

Countries	Production volume of silkworm hybrid eggs (thousand)									
	2013		2014		2015		2016		2017	
	Commercial	Imported	Commercial	Imported	Commercial	Imported	Commercial	Imported	Commercial	Imported
Kazakhstan	-	0,15	-	0,3	-	0,3	-	0,4	-	0,8
Total:	0,15		0,25		0,3		0,4		0,8	
Kyrgyzstan	0	0	0	0	0	0	0	0	0	0
Total:	0		0		0		0		0	
Tajikistan	40	95	50	90	60	85	67	82	95	60
Total:	135		140		145		149		155	
Turkmenistan	55	100	70	100	80	90	100	70	135	35
Total:	155		170		170		170		170	
Uzbekistan	695	295	795	225	920	160	980	110	1154	0
Total:	990		1020		1080		1090		1155	

NATIONAL STRATEGIES FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES

Production plan of fresh cocoons in 2013 - 2017

Countries	Quantity of produced fresh cocoons				
	2013	2014	2015	2016	2017
Kazakhstan	3,4	5,75	6,9	9,2	18,5
Kyrgyzstan	0	0	0	0	0
Tajikistan	3250	3400	3550	3650	3800
Turkmenistan	3900	4000	4010	4010	4010
Uzbekistan	26200	27000	27900	28900	30000

NATIONAL STRATEGIES FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES

Production plan for a Raw Silk

Countries	Quantity of produced Raw silk and Silk waste (tons/years)									
	2013		2014		2015		2016		2017	
	Raw Silk	Silk Waste	Raw Silk	Silk Waste	Raw Silk	Silk Waste	Raw Silk	Silk Waste	Raw Silk	Silk Waste
Kazakhstan	0,3	0,1	0,5	0,2	0,6	0,2	0,8	0,3	1,5	0,6
Kyrgyzstan	0	0	0	0	0	0	0	0	0	0
Tajikistan	268	107	280	112	291	116	300	120	312	125
Turkmenistan	320	128	328	131	330	132	330	132	329	132
Uzbekistan	2150	860	2217	887	2290	916	2375	950	2465	985

NATIONAL STRATEGIES FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES

Long-term and Short-term plans for revival and development of sericulture:

- **Kazakhstan:**
- Construction of supply utilities to promote an efficient use of resources (electricity, gas, water) by textile companies;
- Construction and reconstruction of communications infrastructure (roads, railways, telephone networks);
- Presentations and other marketing activities to introduce potential investors to the opportunities and benefits of the Free Economic Zone (FEZ);
- Determining the criteria for selecting investment projects, meeting the objectives of the creation of FEZ;
- Providing construction of vertically integrated, high-tech and export-oriented production in the FEZ;
- Promote the advancement of domestic textile goods produced in the FEZ, to the world market;
- Implementation of measures to support the textile enterprises in the FEZ;
- Organize capacity building system and improve skills of administration and technical staff.

NATIONAL STRATEGIES FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES

Long-term and Short-term plans for revival and development of sericulture:

■ Tajikistan

- Establish new mulberry plantations from highly productive varieties of mulberry tree, supply farmers with organic and mineral fertilizers and regularly protect mulberry plantations against diseases and pests.
- The Tajik Academy of Agriculture with its experimental station will work on development of new highly productive and disease resistant varieties of mulberry and silkworm, which meet the needs of the silk industry.
- Association “Tajik Silk” together with the regional management undertake all efforts in order to achieve production level of 4000 tons of fresh cocoons a year till 2015.
- The Ministry of Industry, cocoon and silk processing enterprises have to develop a modernization plan for processing of cocoons and production of high quality silk, and step by step achieve the complete processing of the wastes of the silk industry, manufacture finished goods, as well as increase national export potential.
- Forage reserves for the rearing of silkworms must be constantly renewed, otherwise the harvest of leaves reduces. In Tajikistan, due to the fact that about 17 million mulberry trees are located on the sides of roads and fields, they are not regularly fertilized, and hence become vulnerable against diseases and pests (especially *Glyphodis pylalis Walker*). An annual updating old linear mulberry plantings is planned with a goal of renewal of more than 8 million trees. Therefore, about 1500 hectares of mulberry plantations will be established, using new highly productive sorts and hybrids mulberry tree.

NATIONAL STRATEGIES FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES

Long-term and Short-term plans for revival and development of sericulture:

Turkmenistan:

- Industrial silk association Turkmenabat (the former Chardzhou) with capacity of 300 tons of raw silk and 160 tons of silk yarn a year;
- Ashkhabad cocoon reeling factory with a capacity of processing 500 tons cocoons, and producing 160 tons of high-quality silk;
- Textile complex “Ruhobat” possess all the machines of the new complex of factories (more than 200 units of hi-tech textile equipment from the best European manufacturers), which meet the highest standard for production of certificated and competitive products for the world market.

NATIONAL STRATEGIES FOR REVIVAL AND DEVELOPMENT OF SERICULTURE IN THE COUNTRIES

Long-term and Short-term plans for revival and development of sericulture:

Uzbekistan:

- To develop research on breeds, selection and breeding of silkworms for deduction new silkworm breed for providing independence of country in highly productive hybrid silkworm eggs;
- To provide interest and stimulation of Sericulture farmers, by increase purchasing the prices of fresh and dry cocoons;
- Increase in capacities for full processing of the waste product of the silk industry;
- To create favorable conditions for attraction of the local and foreign investment



PROPOSAL ON DEVELOPMENT STRATEGIES

- **Short-term proposals:**
- The International Association BACSA should prepare an appeal to the governments of its member states to establish a regional intergovernmental committee for reconstruction and development of sericulture and silk industry in the countries of Central Asia.
- Establishment of a regional work shop to discuss the problems of sericulture and silk industry, creation of a regional association of scientists and experts to address emerging regional issues.
- Creation of a regional fund for revival and development of sericulture, silk industry and handcrafting in Central Asia.

PROPOSAL ON DEVELOPMENT STRATEGIES

Medium-term proposals:

- Create an information centre, which will be responsible for analyzing, exchange of arisen problems and decision-making in the countries of the region, carrying out common research, and exchange of results, realization of mutual services.
- Creation of a regional centre, which would reunite scientists and experts for exchange of experience, advanced technology, promoting an exchange of genetic resources, development of a common program on breeding of new highly productive silkworm and mulberry breeds and hybrids, protection of mulberry tree plantations from pests and diseases.
- Creation of breeding centers for producing industrial silkworm hybrids, carrying out of tests with the purpose of revealing the most adapted hybrids, which would be economically profitable to breed in different regions.
- Creation of training centers for improvement of professional skills of experts silk and common standardization system for silk industry products originated from the Central Asian countries.
- Exchange experience of experts in revival and development of silk handicraft products.
- Attract European and international investors and donors for rehabilitation and development of sericulture and silk industry in the countries of Central Asia with the mediation of BACSA.
- Establishment and expansion of trade and economic relations between the Central Asian and the European members of BACSA

महाशिवरात्रि