

## **ANALYSIS OF THE SILK VALUE CHAIN IN PAKISTAN**

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**Abstract** - There is a great potential to develop sericulture and silk industry as an economically viable rural /urban avocation in Pakistan as it is highly labor intensive and combines both Industry and agriculture. It generates self employment, gives quick returns on low investment and is a source for exports and foreign exchange earnings. Objective and scope of this exploratory research are the mapping and value chain analysis of silk sector right from sericulture to value added silk products in Pakistan. This research study will based on both quantitative surveying of sericulture related establishment and silk enterprises in all over Pakistan as well as qualitative data and validation of analysis by the stakeholders. Mapping exercise will include Background, Objectives, Market Analysis, SWOT Analysis for Pakistan This study will help not only in presenting SWOT analysis of this potential sector but also highlight factors limiting the growth of the sector. It will also be useful in providing an understanding of complete process to the policy makers for poverty reduction and tackling unemployment. And it will serve as database for short term and long term planning and future research.

**Keywords:** Sericulture, Silk, mapping of silk sector, value chain analysis

**Paper type:** Research(exploratory) Paper (in MS Word format)

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### **I. INTRODUCTION**

The history of silk dates back to earlier civilizations existed on the planet. The Chinese has used silk since the 27th century B.C. Romans and called China as “SERES”, the country of silk. Today the sericulture is being practiced in around fifty countries. China, India, Korea, Japan, Turkey Brazil and the Central Asian states have attained specialization in sericulture technology and silk production.(ref)

Sericulture and silk production Industry is highly labor intensive and combines both agriculture/forest and Industry. It generates self employment for the rural unemployed population, gives quick returns on low investment and is a source for raw material , exports and foreign exchange earnings. The Silk sector in Pakistan is very much unorganized and fragmented. It consists of small scale cottage industry and unorganized manufacturing clusters. Unfortunately there is no cohesion and coordination among different segments of silk value chain because sericulture is dealt by Forest department and silk sector by Ministry of textile. There is a great potential to develop sericulture and silk industry as an economically viable rural /urban avocation in Pakistan due to salubrious climate conditions suitable for mulberry cultivation and silk worm rearing. And even it can play an important role in checking migration from rural to urban areas and creating new job opportunities by providing supplemental income to unemployed population in their native places. In addition sericulture is best use of natural resources and is very environmentally friendly activity. This paper will present mapping and development strategies for cluster-based silk value-chain through PEST(political, economic, social and technological) analysis of the silk sector in Pakistan. The study attempts to present the situation analysis of the sericulture and silk industry in Pakistan, its trends, position in global scenario. Critical issues of future potentials and role of the sector in national economy, employment generation specially for women empowerment and rural development, were also explored.

An attempt is also made to develop an action plan to establish and strengthen sericulture and silk industry in Pakistan and Creation of backward and forward linkages for the silk sector. This concept paper would be use in establishing and recognizing the potential, strength, weaknesses and challenges of the sericulture industry in Pakistan and serve as data base for policy makers to formulate and adopt policies for employment generation and Boost up export of silk products.

### **1. Research Objectives**

This research study is being launched with aims to attaining following specific objectives.

- Analysis of forest/ mulberry plantation strategies suitable for sericulture
- Defining Basic Sub-sectors Features of silk industry in Pakistan
- Mapping of the Silk value chain in Pakistan
- Market Analysis for silk sector
- Pakistan Silk Situation Analysis
- PESTLE Analysis for silk sector of Pakistan
- Development, promotion and extension strategies/interventions for the silk sector.

### **2. Research Problem**

Locating and evaluating the potentials of silk value chain of Pakistan.

### **3. Rationale for the Study**

Silk value chain is selected for this research study of mapping and developing strategies for the sector through PESTLE analysis because sericulture / silk industry is welfare-oriented, labour-intensive, village-based cottage industry, which generates self employment and reduces urban migration. Bring closer the different stakeholders closer and work with coordination for cohesion of the silk sector. The general purpose of this research study will be

- develop an insight into Pakistan cottage based agro industry and accessories sub-sectors, the main players (farmers, rearers reelers, weavers and exporters), and a breakdown of generated value.
- provide an updated overview of the actual situation of the Pakistan silk sector and its competitive ness.

- identify untapped opportunities and threatening constraints along the supply chain.
- collect and analyse valid baseline data for the first time for the whole of Pakistan.
- develop intervention ideas for public and commercial service solutions; and
- The study will be the basis for proposing interventions and strategies designed for the growth of the sector and to overcome the gaps identified.

### **Literature Review**

The history of silk dates back to earlier civilizations existed on the planet. The Chinese has used silk since the 27th century B.C. Romans and called China as “SERES”, the country of silk. Today the sericulture is being practiced in around fifty countries. China, India, Korea, Japan, Turkey Brazil and the Central Asian states have attained specialization in sericulture technology and silk production.(ref) Many Latin American countries developed their sericulture sector through promotional policies. In Argentina a law was enacted in 2004 to accelerate sericulture activities like wise Bolivia and Colombia, started many USAID and GAT and EU funded sericulture projects to up sericulture activities and strengthen the silk sector.<sup>2</sup> likewise developing countries like Cambodia (Cambodia Trade Integration Strategy 2007)<sup>3</sup> and Thailand (Agri food Consulting International, 2005)<sup>4</sup> developed their silk sector through various support programs for the integrated silk value chain. Although agriculture-led growth often proved to be powerful vehicle for braod poverly reduction (DeJanvry and Sadoulet,2009 Chirstiaensen; Demery and Kuhl,2010)<sup>5</sup>. Yet it can reap further benefits and agriculture growth if its value chain is extended to agriculture marketing and agro based processing industry (Abbott,1986)<sup>6</sup>. Creation of value chain permits specialization and enable product diversification to high value products and other value added activities.

Value chain analysis is a framwork for establishing the structural connective point among inputs processes and outputs then outcome. Silk value chain is a series of linkage points among small farmers with inputupplies , processors, traders and final consumers. Value chains analysis provide a diagnostic tool for identifying viable, remurnertive oportunties for poor rural population in developing world. In this era of globalization with highly comparative markets the developing countries must find small niches in which they can compete in the rapidly grwoing local and export market (Haggblade, *et.al*, 2012)<sup>7</sup>. In this regard Michael E Porter’s value chain model(Porter, 1985)<sup>8</sup> dividies specific activities necessary for orgnizatoin for gaining competitive advantages and building their value into two: primary and support activity.

ILO in its various reports has also addressed the basic question of what value chains are and that how value adition can be achieved in it and opportunities can be created for rural and urban population for more employment and better working conditions in value chains (ILO, 2009)<sup>9</sup>

Henderson *Et al* points out that Value chain analysis is a process which should starts with linear mapping of series of activities in the chain from initial input supplier to final supplier to final consumption of products or services( Henderson *Et al* 2002) More complex definitions of value chain analysis present it as three dimensional that is Mapping and analyzing it in holistic way, and treating it in exhaustive process including planning and developing strategies for value chain development and training of the the stakeholders that is people, institutions and policy makers. No complete /authentic base data is available for a true situation analysis involving all stakeholders this chain starts from small formers who have low literacy rate in the rural areas, limited access to communication or media to the end product users and export sector for niche silk products.

This study will help not only in presenting situational and SWOT analysis of this opportunity but also highlight factors limiting the growth of the sector. It will also be useful in providing an understanding of entire process to the policy makers.

## Research Design

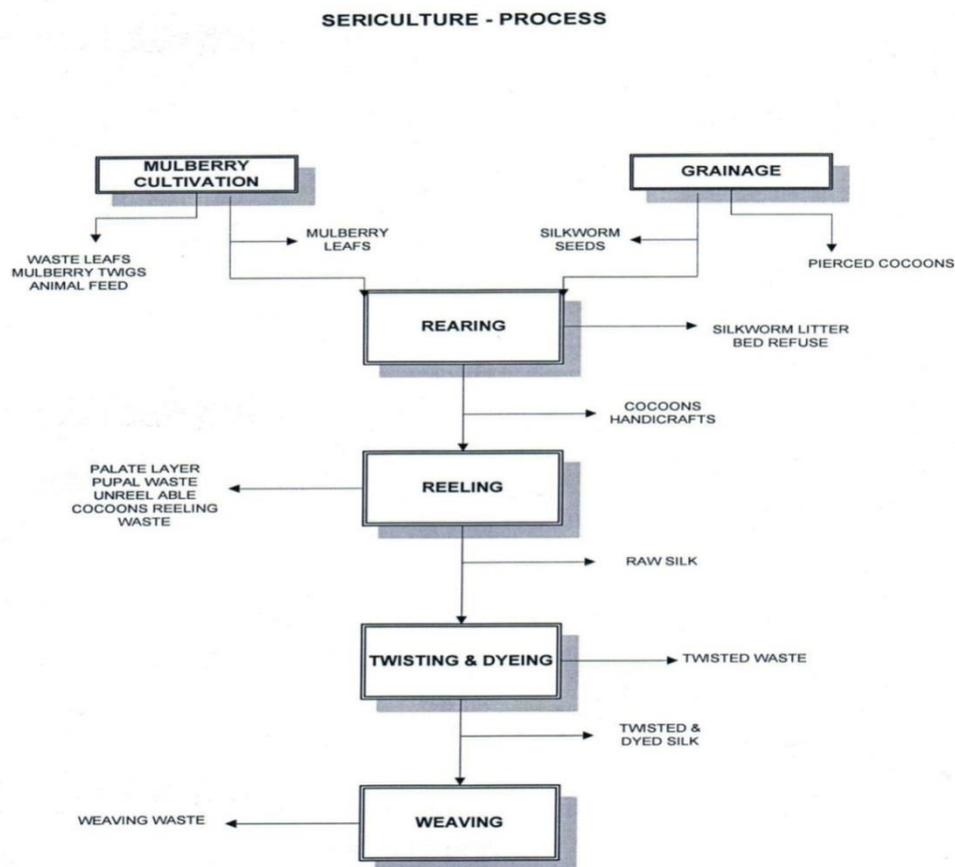
To explore the research objectives outlined earlier, two pronged research methodology was adopted. The study used qualitative as well as quantitative in nature. The some aspects for the research were exploratory insight sought for identification of factors and a quantitative survey to complement findings of qualitative analysis. For that purpose a customized set/research design matrix of indicators was developed against whom the value chain will be mapped and the results of analysis will be validated through stake holders conferences/workshops. This Mapping exercise includes Background, Objectives, Market Analysis Pakistan Silk Situation Analysis , PEST Analysis and then will suggest some Implementation Strategies and Way forward. In the absence of accurate and complete secondary data, this exploratory study and its analysis has relied on primary data set of scheduled interviews of various stakeholders, and small scale surveys which were undertaken in field study. The research article will forward a set of recommendations for each segment and for federal and provincial government for the development of silk industry.

## II. BASIC SUB-SECTOR FEATURES

### 2.1 Silk Value Chain

Sericulture and silk production Industry is highly labor intensive and combines both agriculture and Industry .It generates self employment for the rural educated unemployed, gives quick returns on low investment and is a source for exports and foreign exchange earnings.

The silk industry supply chain has five major segments, namely:



*Figure-1 Sericulture process (Source internet)*

**(1)Mulberry Cultivation:** mulberry trees cultivation is vital for Silkworms rearing as it needs a regular supply of mulberry leaves for feeding of silkworms. This mulberry cultivation can be done on large or even small scale. In silk producing countries like india ,the bulk of mulberry cultivation is done by small farmers (< 4 acres land), usually in clusters. (science & society, 2014)

**(1.1)silk worm seed production.** Special grainages (quality centrers) can be used for procuring DFLs (Disease Free Layings, i.e. eggs) through silk worms.

**(2)Rearing:** The larvae of the silk moth is called silk worm. They are reared in wooden or metallic specially made trays in special rooms where temperature and humidity are controlled and almost constantly fed on mulberry leaves. After a certain time they convert themselves into cocoons. Cocoon is a material made from a single filament which is secreted by the pupae and pupae then wrap it around itself. These filaments upon hardening constitute silk.

**(3)Reeling:** Reeling involves the removal of silk yarn from the cocoons. A gum like material which holds a cocoon together, has to be removed from silk . The process consists of first boiling the cocoon in water to remove the and then unwinding the filaments (reeling).eight to ten cocoons can be reeled together. There are three common methods for reeling: the charkha, the slightly more advanced cottage basin and the costly automatic machines.

**(4)Twisting:** Before weaving, the raw silk is boiled again to remove remaining gum, then it is dyed and bleached. This dyeing and bleaching can also be done in some cases after the cloth is woven.

**(5)Weaving:** fabric is created by the process of weaving. The process of Weaving is carried out on wooden or power looms, after a series of preliminary operations including warping and pirning etc. most of the silk producing countries rely mainly on weaving by handlooms although some countries like china have shifted their weaving on power looms. handloom products are famous for their unique designs and weaving patterns.

## 2.2 Species of Silkworms

Different species of moths, cocoons yield different types of silk. Folowing are the main types of silkworm (Ref 3)

**Mulberry Silkworm** is the most common type of silkworms. It contributes to nearly 95% of world's silk production.

**Eri silkworm** are fed on castor leaves and has two varieties has two varieties – a wild and a domesticated one both fed on bred on castor leaves. The filament of Eri silkworm is neither continuous nor uniform. It produces a white or bright red silk .

**Tasar silkworms** are wild. They feed on trees of Terminalia species and other minor host plants, while the Japanese and Chinese worms feed on oak and other allied species..

**Muga silkworm** is an other type of silk producing worm. It feeds on some local species of shrubs like Machilusbombycina and Litsaepolyantha. It produces a strong, golden yellow thread.

## 2.3 Types of Silk

.Four different types of silk thread can be produced from the procedure of “throwing” ( that is twisting of raw silk into strands) : *crepe*, *tram*, *thrown singles*, and *organzine*. These types of silk are differentiated by the way of their twisting of threads in one direction or in two directions or doubling two or more strands together, and then twisting them again.

## 2.4 Products of silk

Products of silk filament include Silk Yarn, silk cloth, Made-ups, Readymade Garments, Silk Carpets and Silk Wastes. The major types of silk products are taffetas ,satins, Repts, regencies, Ottomans, Velvets, crepes, chiffons, Organdie, voile, Twills, Tartans, Lames, Damasks, Brocades, Jacquard velvet Double damasks, Lampas and Pattern weaves.

### III. MARKET ANALYSIS

#### 3.1 World Silk production

In More than fifty countries of world sericulture has been adopted as an occupation including India, China, Japan, Korea, Turkey, Brazil, and the Central Asian states.

The annual world production of raw silk is about 186,000 tons. China is the main producer of silk it contributes half of the world supply followed by India, Korea and Japan. As world natural silk production is limited, about 46.5 per cent of world silk demand is met by the artificial silk. Due to huge difference in demand and supply of raw silk and due to its superiority over artificial fibre. Raw silk booking price from China is US \$54 per kg on (Dawn, 2010) Globally, share of cotton in global textile fiber market is 40%, wool accounts for a mere 2.5%, and silk's percentage in it is a tiny 0.2% (WTO, 2006). Yet, the actual trading value of silk and silk products is much more significant than this volume would suggest. Silk is a premium priced agricultural commodity; the unit price of raw silk is roughly twenty times that of raw cotton (FAOSTAT,2007). World production of raw silk stood at 186.2 thousand tons in 2012. The global production of raw silk from 2000 to 2012 is shown in Fig. 2.

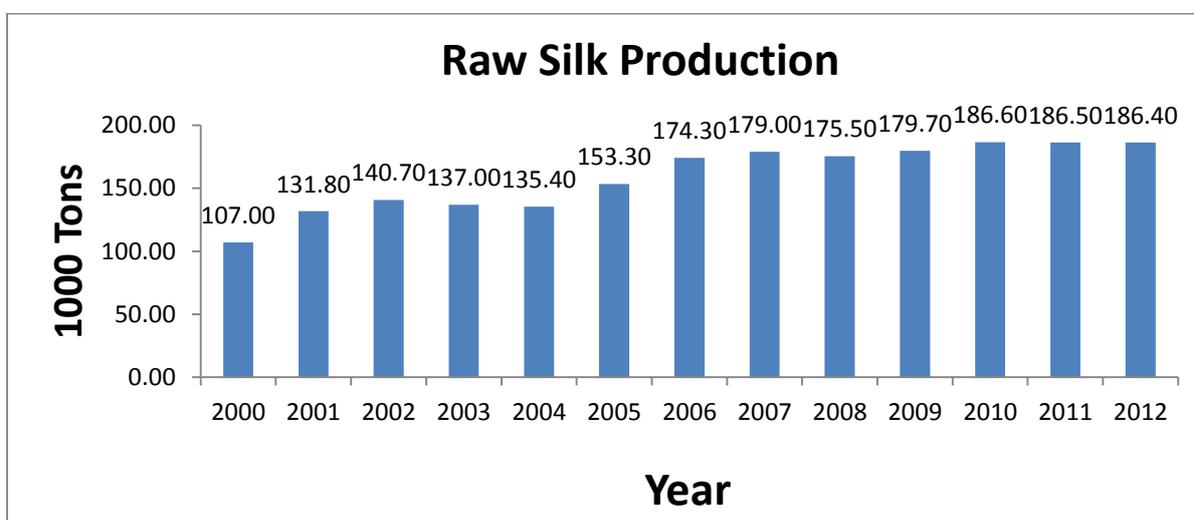


Figure 2: Global Production of Raw Silk in tons (Source: FAOSTAT data, 2012)

#### 3.2 World Silk Trade

Table:1 Top five Exporter of Silk and Pakistan	
Country	Exprot Total in US\$
China	1,706,042,559
Germany	97,553,597
India	163,511,111
Italy	389,275,471
Japan	112,986,528
Pakistan	686,077
Pakistan's share in w /trade	0.03%
<b>Total</b>	<b>2,470,055,343</b>

Product Identity	Import Total in US \$
China, Hong Kong SAR	118,744,970
USA	170,969,566
India	325,773,845
Italy	396,912,050
Japan	179,738,927
Pakistan	33,949,018
Pakistan's share in w /trade	2.77%
<b>Total</b>	<b>1,226,088,376</b>

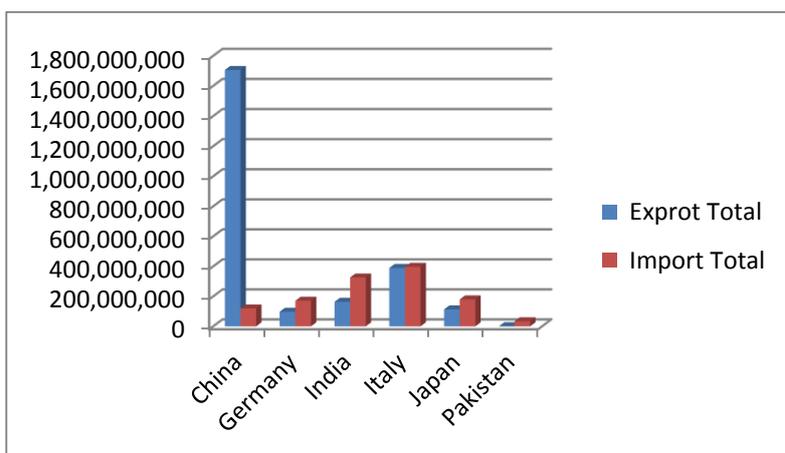


Figure 3: Total Trade share of top Five countries and Pakistan (source Com trade)

### 3.3 COMPARISON OF TARIFF REGIMES

Table:3 Comparison Of import Tariffs of Pakistan and competing countries

Product lines of silk	HS Codes	China	E U	India	Pakistan
Raw Silk( not thrown)	500200	5.7	0	30	5
Silk waste (including cocoons unsuitable for reeling, yarn waste and garnetted stock).	500300	5.7	0	10	5
Silk- worm cocoons suitable for reeling.	500100	0	0	30	5
Silk yarn (other than yarn spun from silk waste) not put up for retail sale.	500400	5.2	4-8	10	5
Silk yarn and yarn spun from silk waste, put up for retail sale; silk-worm gut.	500600	5.2	2.9-5	10	5
Silk-worm Cocoons Suitable for Reeling	500100	10.4	0	0	0
Woven fabrics of silk or of silk waste.	500700	5.8	6-15	10	15
Yarn spun from silk waste, not put up for retail sale.	500500	5.2	5.8	10	0

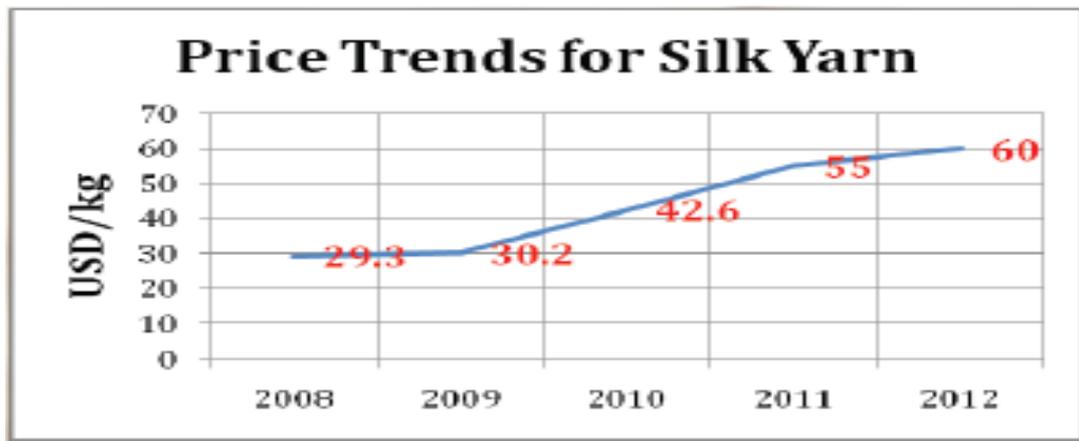


Figure 4 : world Price trend of Silk Yarn

### 3.4 Future Trend

Germany, the UK, France, Italy and Spain will continue to be primary import markets, accounting for 75% of the household and furnishing textiles consumption in the EU (Centre for the Promotion of Imports from developing countries CBI, 2006), EU (CBI, 2007). However, the Netherlands, Belgium, Sweden and Austria may emerge as more important players as future import markets.

Forecasts regarding the consumption of home textiles predict an annual growth of 2% for the period 2005-2009. Consumer expenditure in EU countries is also expected to grow slowly further in 2007 and beyond, caused by:

- A continuing interest in more fashionable home textiles, especially of younger age groups and encouraged by foreign multinationals in several EU countries.
- As domestic housing increases in line with population growth, there will be an increased demand for home textiles.
- There is a stable and high demand for natural fibres.

All these factors will lead to new demands.

## IV. SITUATION ANALYSIS PAKISTAN

The production process of silk involves a large chain of interrelated actions and professions that provide source of livelihood and employment to many segments of people, including, silkworm seed producers, farmers-cum-rearers, reelers, twistors, weavers, spinners, traders and others auxiliary traders. Despite its tremendous potential, and very high returns in a short period of 30-35 days unfortunately this sector has never been recognized as a potential investment industry due to limited formal financing facilities or any incentives. It was introduced in Azad Jammu and Kashmir in 1951 in the NWFP in 1952, in Balochistan in 1959, and in Sindh in 1976. (Dawn, 2014). Many countries of the world has moved to multiple cropping or rearing in a year but unfortunately there are two rearing season i.e., spring and autumn in Pakistan, and that too produce a small amount of cocoon which is insufficient for even local demand. So Pakistan has to rely on a huge quantity of annual imports even for local production. Unfortunately, the silk clusters has become a shrinking sector in Pakistan.

Presently, about 15,000 families (6 million families in India) are earning their livelihood from sericulture .silk (rearing silkworm) in Punjab. Mulberry nurseries cover a total area of 1,380 acres. According to a report of the Sericulture Wing of Punjab Forest Department, 25% manpower of the province can be provided employment with the development of silkworm rearing industry. (Dawn 2014). There are different pockets of the area where weather conditions are suitable for sericulture in Pakistan, Kalash Valley is one such place. But Only one crop of silkworms is reared during the spring season. Therefore Total production of dry cocoons in the valley is very low, (Ajaz, 2003).

Jammu and Kashmir can produce best quality Mulberry silk. This industry is the oldest industry of Kashmir. A century ago, Kashmir had a “dynamic silk trade”. Silk yarn was exported to the West and within the British Empire in the 1940s. Due to most favorable environment, Kashmir silk is valued for its luster, quality and strength. It was developed as an industry in Kashmir during the Dogra regime and thousands of poor inhabitants adopted it as an additional source of income. Indian held Kashmir had cocoon production 1,500,000 kilograms at its peak in the 80s which dipped to 60,000 kilograms a decade later. In AJK part of Kashmir there are 17 nurseries and 22 cocoon development and research centres.

Orangi Town Karachi is a hub of small silk producers who collectively cater to about 80 per cent of the demand for pure Banarsi silk in Pakistan. With a total population of about 200,000 (approximately 20 per cent of the population of Orangi, one of the biggest squatter settlements in the world), almost all households here have traditionally been involved in the silk industry. (Dawn, 2014) There are some 1,500 small silk units and 400 silk shops in it. But they are not engaged in or connected with rearing of worms or cocoon or silk production, they only buy Raw silk and their processes start with Dyeing and onwards.

#### 4.1 Production of silk

**Table 4: Year wise production & Distribution of sericulture Produce**

S#	Activity	Unit	2009	2010	2011	2012	2013	2014
1	Eggs production	Packet (12 gm)	1155	1104	1416	1807	1790	2500 (Exp)
2	Distribution in AJK	Packet	457	605	934	911	817	1000
3	Sericulture farmers	No	395	475	675	600	397	500
4	Distribution in Punjab, KPK, Sindh	Packet	600	550	170	505	1290	790
5	Production in Private Sector	Kg	8980	15000	26000	27115	31008	25000* (Exp)
6	Income in private sector	In million	1.618	2.700	3.900	8.134	11.025	12.500 (Exp)
7.	Mulberry sapling Production	No	416500	474000	502000	494300	543500	604500

*\*It was around 50,000kg before earthquake of 2005*

#### 4.2 Silk Trade Share Of Pakistan

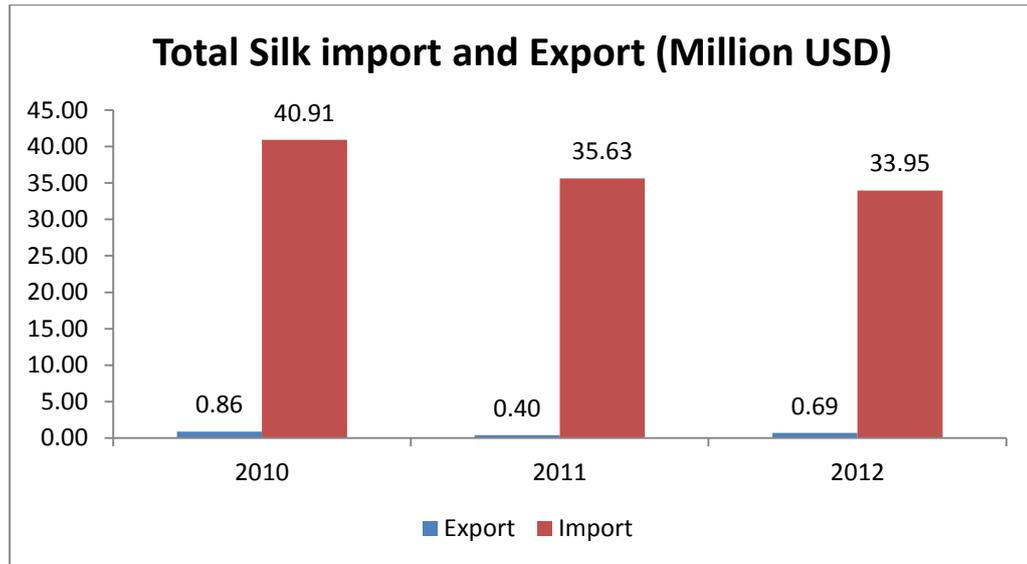


Figure5: Total silk Imports and Exports of Pakistan

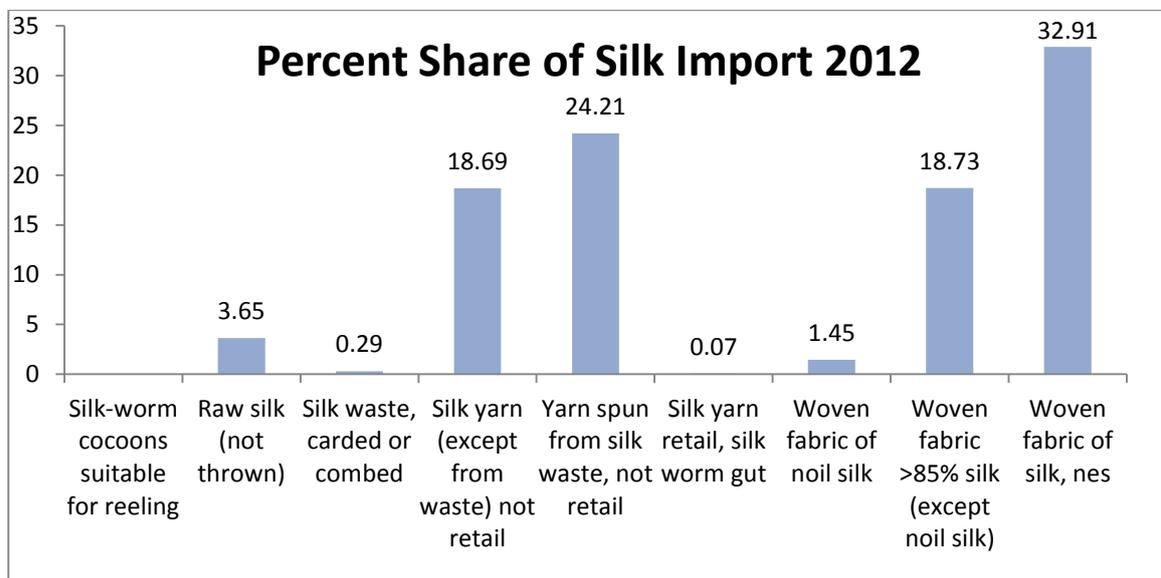


Figure 6: Percent share of Silk imports

#### 4.3 SWOT Analysis:

The strengths, weakness, opportunities and challenges (SWOT analysis) of Pakistan silk industry

##### STRENGTHS:

- Production of most expensive and complex fiber famed for its unique qualities
- Low cost investment in the initial production process.
- Comparatively shorter gestation period and higher returns on investment
- Large area having Suitable climate for

##### WEAKNESSES:

- No proper body to plan for and oversee the affairs of the sector.
- No proper planning for mulberry plantation
- Outdated technology in terms of machinery
- Poor Infrastructure

mulberry cultivation, availability of silkworm breeds/ hybrids. • separate segments lacking vertical integration

- Traditional craft of the Area.
- Huge value addition and export earnings
- Lack of vocational training
- Lack of technology transfer and extension services
  - Absence of color testing laboratories
  - Production is unorganized and scattered
  - Unawareness about markets out reach
  - Limited size & scale
  - Limited Product line

### **OPPORTUNITIES:**

- Source of rural employment
- Check for rural migration to urban areas.
- Untapped domestic and international markets for the niche products
- Premium price for the products due to its symbol of status and unique nature.
- Available but Unemployed skilled labor who can produce variety of traditional products
- Technology can be improved and upgraded.
- Scope of development of new products
- Huge Export opportunities.

### **THREATS:**

- Shifting of skilled labor from this cottage Industry to other Industries
- Outdated technology in terms of machinery
- Shrinking area of Mulberry cultivation
- Poor Infrastructure
- separate segments lacking vertical integration
- Rising raw material prices
- Takeover of national and international markets by competing countries
- Fast changing global scenario after WTO regime about dumping and price mechanism Lack of awareness in the local clusters and markets

**Sericulture and women empowerment:** Women constitute around 50 % of the Pakistan's population. Main occupation of Pakistan populations is agriculture. and women likewise are engaged in agri related activities. sericulture as a cottage industry, can provides work oppertunities for women in the rural areas particularly in silkworm rearing and reeling. The involvement of women in different activities of sericulture al over the world account for 53 %. their contribution is most in post cocoon activities and least in the on-farm activities. Sericulture is an ideal job for women because of the following reasons-

- Sericulture needs less specialized skill and hence, suits even unskilled women well.
- Sericulture is mostly indoor activities, therefore less physical energy and manual labor is required .
- Rural women can do this job in the proximity to their living place and while doing their daily chores as rearing needs feeding etc at intermittent gaps.
- It requires Minimum investment which even women can arrange with long life and short gestation period for return on investment.

**Seri-bio-diversity:** Pakistan is a highly biodiverse country, and is home to a diverse silk moth flora and fauna. This offers a great opportunity for economic utilization of the natural flora and fauna. However, due to deforestation flooding and destruction of habitats, this flora and fauna is in danger and

commitment and efforts are needed to bring about development. Sericulture development can play an important role in this regard.

**Sericulture and economy:** Today Pakistan is meeting only 15% of its domestic demand from its domestic production and rest of the volume is being imported from other countries which burdens foreign exchange. In the wake of GSP + status given to Pakistan by EU countries, there is an opportunity to double the export earnings.

**Provides vibrancy to village economies:**

Silk and sericulture industry can provide employment for the rural masses ensuring economic returns at the individual family level.

About 57% of the gross value of silk fabrics flows back to the cocoon growers with share of Income to different groups as under;(Orissa gov. india)

- 56.8% to cocoon grower
- 6.8% to the reeler
- 9.1% to the twister
- 10.7% to the weaver
- 16.6% to the other trade
- 

## V. IMPLEMENTATION STRATEGIES.

**Political , Economic & Social Strategies** The government incentives for the silk industry can include measures such as

- tax breaks, cultivation drives etc
- Establishment of silk board (in textile ministry to govern and integrate silk value chain)
- project prioritization (priority in review and approval of applications),
- The Government should earmark a separate amount for silk industry in its subsidy for textile sector.
- The Government should develop and adopt a National Fiber Policy, to ensure self-sufficiency in fiber consumption and import /exports..
- There is a need for finding an optimal tariff so that interests and development of both the sectors (producers and value added sector) can be ensured.
- In the wake of rampant Inflation people can be persuaded through awareness campaign about the positive impacts of spending their extra time in mulberry cultivation and different allied part time jobs.
- Small project proposals relating to silk industry should be included in youth loan program and other such micro financing schemes.
- Production of mulberry foliage through mulberry plantations and production of high quality silk seed for promotion of Sericulture activities.

### **Cluster development**

This may be done by establishing the Cluster in the mulberry cultivation areas like AJK and KPK and GB where mulberry cultivation is most suited. The very basic requirement for Sericulture industry is the high quality silk seed. The existing facilities for local seed production are inadequate to meet the requirement. The imported silk seed is very expensive item. Poor farmers are unable to purchase imported silk seed It is, therefore, imperative to strengthen the indigenous seed production on modern scientific lines engaging academia/Universities through research projects.

In the proposed cluster the Product development and research centres may be established. Some 2-20 nurseries may have cocoon development centres and common research centres. Common Facility Cluster at a place where majority of rearers of silkworm are situated will provide all the facilities under

one roof. It will cut costs save time and provide opportunity for networking. Research Projects may be initiated to introduce new products by the universities.

The centre will consist of

- Laboratory for research on silk kinds and diseases
- Grainage
- training Centre
- Buying House

#### **Common Facility Centre (CFC)**

This may be done by establishing the Cluster/Common Facility Centre (CFC) at a place where majority of handlooms exist like Banaras town Karachi. The basic objective is to provide Common Facility Cluster at a place where majority of rearers of silkworm are situated will provide all the facilities under one roof. It will cut costs save time and provide opportunity for networking.. Government should Develop and implement different post-cocoon sector like;

- support to establishing shuttle less looms, loom up-gradation,
- computer aided Textile Designing,
- Common Facility Centre for dyeing and fabric processing

The Centre will be a one-roof/one stop facility and It can include all exhaustive activities related to this industry that is Training Centre, Dyeing Laboratory, Design Studio, Display Centre and Handloom Marketing Centre/ Buying House

#### **Marketing, Premium price and Hand Loom Marks**

With collaboration of fashion designers premium prices should be set for handloom/silk hand loom products. The efforts should be made to popularize the silk loom Mark for different hand and the machine made pure silk products.

#### **Industry Academia collaboration**

The very basic requirement for Sericulture industry is the high quality silk seed. The existing facilities for local seed production are too inadequate to meet the requirement. The imported silk seed is very expensive item. To strengthen the indigenous seed production on modern scientific lines collaboration of academia/Universities should be sought through research projects. Likewise Product development /research centers may be established in the universities and projects may be initiated to introduce new products.

Establishment of Silk Board to develop silk value chain and work out the strategy and implementation a **Silk Board** is proposed at national and on its recommendation a Silk Development Commissioner will also be considered by the Board. The Board will also consider formulating Silk Policy. Notwithstanding to points mentioned in this paragraph, the objectives of Silk Board will be as follows:-

- Development, promotion and extension of the silk sector.
- Creation of backward and forward linkages /vertical integration for the silk sector
- Identify untapped opportunities and constraints along the supply chain.
- Creation of common Facilitation Center in existing Clusters.
- Promotion of hand crafted products and development of Brands/Marks
- Boost up Export of silk value-added products.

The way forward in this regard can be adaptation of combination of multiple strategies and any strategy adopted for the development of the sector should be exhaustive, that is it should include R&D, seed production, extension services, marketing etc. along with training and capacity building etc. of all segments of Silk value chain.

## **VI. CONCLUSION**

Silk is a high valued textile. Sericulture and silk industry is consists of activities in agriculture, animal husbandry and processing in textiles value chain. This industry is based on agricultural output and it is a labor intensive avocation. The silk value chain starts mulberry plantation, then rearing of silk worm, reeling, weaving, and silk wet processing besides garment manufacturing. There are also other auxiliary activities connected to this industry like marketing, manufacturing of by-products like spun silk yarn and oil extraction. This all adds value to the products at each stage of the industry.

The silk sector is fragmented and underdeveloped in Pakistan. A lot needs to be done in this regard to vertically integrate this sector and reap the benefits of not only improved standard of living for workers in all of its value chain steps but also boost up Export of silk value-added products. As a first step a central governing body should be established to plan and implement sector development policies and strategies. Coordinated actions among various government departments are required for the development of this sub-sector including the participation of a number of agencies such as relevant associations, NGO's, and Institutions. To effectively utilize the public resources, Convergence of knowledge, Integration with fashion Industry and R & D organization along with development of complete Value chain is much needed pre-requisite for sustainability of the sector.

### REFERENCES

1. Mau Chuan-Hui *Silk industry: Technology and Human Capital Formation in France and China* Institute of History, National Tsing Hua University (Taiwan) retrieved from [www.lse.ac.uk/economicHistory/Conferences/.../PAPER-Mau.pdf](http://www.lse.ac.uk/economicHistory/Conferences/.../PAPER-Mau.pdf) on12/03/2014
2. Retrieved from [inserco.org/.../Concept%20on%20Silk%20for%20Latin%20American%20](http://inserco.org/.../Concept%20on%20Silk%20for%20Latin%20American%20)
3. WTO,OECD (2011) *Aid for trade, a case story: Cambodia* Retrieved from <http://www.oecd.org/aidfortrade/48413548.pdf>
4. Agri food Consulting International, (2005) *Northeast Thailand Silk Value Chain Study* retrieved from [www.agrifoodconsulting.com/ACI/.../briefs/brief\\_39\\_2054116968.pdf](http://www.agrifoodconsulting.com/ACI/.../briefs/brief_39_2054116968.pdf)
5. DeJanvry, A. and Sadoulet, E. (2009). *Agricultural growth and poverty reduction: additional evidence*. Oxford: Oxford University Press
6. Christiaensen, L., Demery, L. and Kuhl, J. (2010) *The Evolving Role of Agriculture in Poverty Reduction: An Empirical Perspective*, Working Papers UNU-WIDER Working Paper W, World Institute for Development Economic Research UNU-WIDER.
7. Abbott, J.C. (1986). *Marketing Improvement in the Developing World: What Happens and What We Have Learned*. FAO Economic and Social Development Series No. 37. Rome: Food and Agriculture Organization.
8. Haggblade,S., Theriault,V., Staatz,J., Dembele N and Diallo B.(2012)*A Conceptual Framework for Promoting Inclusive Agricultural Value Chains (IFAD)* Michigan state University
9. Porter, M. E.,(1985) *Competitive Advantage: Creating and sustaining Superior Performance*. Free Press. New York.
10. ILO (2009) *Value Chain Development for Decent Work : A guide for development practitioners, government and private sector initiatives* Instructional material | 16 October 2009 Ref.978-92-2-122230-9[ISBN] ILO (2007) *An operational guide to Local Value Chain development* 01 February 2007.
11. ILO (2011) *Value Chain Development: Approaches and activities by seven UN agencies and opportunities for interagency cooperation* 20 December 2011. [http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/---ifp\\_seed/documents/publication/wcms\\_170848.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_170848.pdf)
12. Henderson Et al( 2002) *global production network and analysis of economic development* in Review Of International Political Economy 9(3)436-464
13. retrieved from [http://www.scienceandsocietydst.org/Sericulture and Silk Production.pdf](http://www.scienceandsocietydst.org/Sericulture%20and%20Silk%20Production.pdf)  
the nation .com .pk

