

IMPACT OF INDIAN COTTONS ON STARTING COTTON CULTIVATION AND PRODUCTION IN CHINA

PADMINI TOLAT BALARAM

Abstract : In the world of textiles, India was famous for its cottons and China was known for its silks. China was one of the earliest eastern markets for Indian Textiles. High class Chinese usually wore silk while hemp was used for making casual dresses of common classes. In his book *Hanshu* (History of the (Former) Han Dynasty), Ban Gu (CE 32~92) has noted that Emperor Wudi received several Indian goods as present and cloth was one of the items included in his list of presents received. Trade between India and China existed even before the establishment of the famous silk road in 1st century BCE. This paper talks about the starting of cotton trade between India and China before and after establishment of cotton cultivation in China in 12th century CE. It discusses the types of Indian textiles that reached China via different routes, their use, popularity and demand in China and its impact on starting cotton cultivation and production in China. It also mentions the types of cotton textiles which continued to be imported from India even after establishment of cotton industry in China.

Key Words : bilateral, colonies, currency, export, historical, Silk Road, spice-trade, textiles

Introduction

Today 40% of world textiles are made using cotton. Presently China tops the list and India comes second among the cotton producing countries of the world. But till 12th century CE, China hardly cultivated cotton and was importing cotton textiles from India. However, if we club the cotton produced by India and Pakistan together, then they together cultivate and produce the maximum amount of cotton even today. Till 1947 India and Pakistan were parts of United India. Hence the word 'India' in the following article covers regions of both these countries as well as of present Bangladesh.

Cotton in India

"It is said that cotton is the oldest textile woven by humans. The word cotton comes from the Arabic '*Al-Qutn*', which in turn comes from the Sanskrit word '*Karpasi*'" (Balaram et al. 2012:11).

The earliest remains of cotton textiles and a statue of the Prince wearing a cloth are found at Mohenjo-Daro excavations. This proves that cotton textiles were produced and worn in united India as early as 4th century BCE. Renowned scholar Moti Chandra has mentioned in his notes, "(in) the excavations at Mohenjo-daro...an actual piece of cotton



Figure1 : Indus Valley 'Priest King' from Mohenjo-daro, wearing a trefoil design cloth (The Ancient Indus Civilisation. Web. 7 Jan. 2012. <http://www.harappa.com/har/indus-saraswati.html>)

has been discovered which shows that cotton was known to the people of Sindh four thousand five hundred years back” (qtd. in Balaram 2012: 9).

As Prof. Vasant Shinde, Vice-Chancellor of Deccan College, had mentioned, the earliest physical remains of any cloth in India were found at a Chalcolithic period site at Balathal in Marwar regions of (present) Rajasthan State of India (Balaram et al. 2012: 20).

India not only was the first to cultivate and produce the cotton but was also exporting it, from the period of Mohenjo-daro Civilisation. Number of excavations and literary references have proved this fact. To promote the trade and maritime exports, ports were built during Indus Valley Civilisation. “The world’s first tidal dock was built around 2500 BC during the Harappan civilisation at Lothal near the present day Mangrol harbour on the Gujarat coast. Other ports were probably at Balakot and Dwarka. However, it is probable that many small-scale ports, and not massive ports, were used for the Harappan maritime trade. Ships from the harbour at these ancient port cities established trade with Mesopotamia” (Iyer, 2015).

According to the Periplus of the Erythraean Sea-a first century CE Greek account of commerce in the Western Indian Ocean, Greeks imported Indian cotton as luxury fabric (Guy 1998:20). Over the centuries exports and demands of Indian cottons continued. Maurya period in BCE to Gupta period from 11th to 14th centuries as well as after 15th centuries when the Europeans entered the Asian sea for trading, importance of Indian textiles continued. According to Mettabelle Gittinger, a well-known textile historian, Indian textiles had become dominant currency of exchange. Whoever entered this spice trade in sixteenth and seventeenth centuries CE, had to procure these textiles in India as a prerequisite to other trade (Gittinger 1982: 137,138).

Beginning of Indo-China Trade and the Trade Routes

Indian cotton textiles were already exported to Egypt, European counties as well as to Shu (Sichuan region of present China) before the establishment of the famous Silk Road in 2nd Century BCE. Actually, Chinese goods reached Europe via India at that time. Literary references and excavations also prove that the trade between India and China existed centuries before the establishment of the famous Silk Road. In 2nd century BCE, “when Han China had no knowledge of the Western part of present China, India had already established trade routes with Shu (the present Sichuan Prefecture of Western China) and Qiong, presently in Western China (Balaram 2012: 11). In 138 BCE Zhang

Qian, who was sent by Han Emperor Wu to forge an alliance with Yue-zhi nomads in Afghanistan, on his way, saw textiles from Shu traded to Bactria via India. Zhang Qian's report recorded by historian Suna Qien, noted, "When I was in Dasha [The Bactria of Greeks], I saw bamboo canes from Qiong and cloths made in province of Shu. When I asked people how they had received such articles, they replied that their merchants went to buy them in the markets of Shen-du [India]" (qtd. in Vollmer et al.:11). "Zhang Qian also speculated that the safest route to the Central Asian markets might be through India, since the Northern routes were controlled by the Xiong-nu [a federation of tribes which kept attacking China]" (Vollmer et al.:11). This statement confirms a strong possibility of trade conducted from Northeast India to Southwest China via Burma, and Northern Thailand.

According to the well-known historian Prof. R. C. Majumdar, the trade routes from India to the Far East were established centuries earlier than the Christian Era (Majumdar 1944 : 13). As per Moti Chandra, regular contact between India and South China was perhaps established in second century BCE and with Han China it began in 61 AD (CE) when Han-Kui-Chin sent an embassy towards the West, to bring Buddhist Monks from India to China. It strengthened a great deal during the Gupta Period (Chandra 1977 : 176-177).

Indian traders in hope of riches and spices took up long and difficult travels through land as well as sea even before Christian era. Some of them settled in those countries and married local women and established a Hindu colony there. Inhabitants of these colonies continued to practice their own religion and culture. In Southeast Asia, Indian colonies were established in Malay peninsula, Java, Sumatra, Borneo, Bali, Champa (presently in Central Vietnam), Annam, Kambuja (Cambodia), Burma and Siam (Thailand), Fu-nan, Yunnan (presently the part of Southwest China) etc. There are instances when Indian princes have come to Southeast Asia and established Kingdoms. These Indian colonies and Hindu kingdoms influenced the religion, culture and life style of the people in the regions they were established and also became trade link between India and China.

The Land Routes

Many Indian (Hindu, Buddhist and mixed) colonies were established on the land route from India to China, which went through Eastern Bengal, Manipur and Assam to Upper Burma, Northern Thailand, to the South west region of present China, mainly to present Yunnan and to Sichuan prefectures. At that time, Yunnan and Sichuan were not part of Han China and were independent kingdoms. The local tradition regarded that one of the sons of the great Emperor Asoka himself founded a colony at Dali which was known as Kingdom of Nan-chao or Tali (Dali). Yunnan was known by its Indian name Gandhara even as late as 13th century CE (Majumdar, 1927 : xiv). This route is now known as Silk Road of the South and presently efforts are to re-start this trade route.

“Recent archaeological research on mummies found in the Tarim Basin has also uncovered cotton textiles, dating from the first millennium BCE, whose origin may be traced to India” (qtd. in Zurndorfer : 1). Tarim Basin, which falls in the present Uygur Autonomous Region of Xinjiang in western China, had important trading posts on the Famous Silk Road. Thus it proves that Indian cottons were exported via Silk Road leading to China. Major part of Tarim Basin is covered with Takla Makan desert, but the several oases in the Northern part of Tarim Basin flourished as trade centres, providing resting place to the trading caravans. Tarim Basin was an independent Kingdom during the time of the Silk Road.

The Sea Routes

Indian traders usually sailed from Indian ports such as Tamralipti (Tamluk of Midnapur dist. of present W. Bengal), Palura port near Gopalpur (Ganjam in present Orissa), 3 unidentified ports near Masulipatam (Masulipatnam of present Andhra Pradesh) and Broach (Bharuch) in Gujarat. By the 9th century CE, Indian merchants were regularly trading at the South China ports of Guangzhou (Canton) and Quanzhou in coastal Fujian (Guy, 1998: 153, qtd. in Balaram, 2012: 16). Zhao Rukua in his account *Zhifanzhi* dated 1225 A.D. notes that Indian cotton goods from Gujarat, Malwa, Malabar and Coromandel coast were supplied to the ports of South China.

To encourage trade with China, the Chola Dynasty, which had control over the cotton producing centres and ports of the Coromandel Coast of south India sent a series of missions to China starting from 1015 CE till the end of 13th century CE. Thus during this time, trade between Chola Dynasty and China flourished via sea route. Apart from Indian merchants going to China, Chinese merchants also came to India to trade. Wang Dayuan in his work *Daoyizhilue* (Brief account of the ‘Barbarian¹ Isles’) dated 1350 CE, mentions about ‘patterned cloth’ from Nagapattinam, the Chola Dynasty’s principal port and major centre for the export of cotton goods from Southern Coromandel Coast. Chinese merchants also resided there and built their temple, which shows the beginning of an active role of Chinese merchants in procuring the textiles, spices, aromatics at the source in order to meet the local demand in China (qtd. in Balaram 2012: 17, qtd. in Guy 1998: 154-155).

Even today Kolkata has China town. Chinese traders who came and settled in India usually stayed together like Indians did when they went abroad and established their colonies. The areas where Chinese stayed are now known as China town.

Secondary Trading

Earlier the Indian cloth was already employed in a complex system of secondary trading and exchange, which linked Southeast Asia and South China. In case of direct trading Indian goods were taken from India to China by the same trader/merchant. In case of secondary trading it was sold by one merchant to the other, who further traded it to China. Sometimes Indian textiles changed several hands before it reached China. For example, many Indian goods were exchanged between Indian, Chinese and Arab merchants at the trading ports of South and Southeast Asian countries as well as at the ports of Indian Kingdoms and colonies established on the way to China. The Chinese and Arab merchants then carried those Indian cottons to resell them in China. Later, when the Europeans entered the Asian sea, the secondary trading was carried out by them too. Malacca, where ‘the winds changed’ became one of the most important trading ports where such secondary trading was carried out among Indian traders and the traders from the other countries including the Chinese.

Vietnam played an important role in trade with China. Hoi An (formerly Faifo) “emerged in the mid-sixteenth century as a significant entrepot for the China Ryukyu-Japan trade. It attracted foreign merchants in significant numbers and Japanese communities settled there” (qtd. in Guy 1998: 156). “At Hoi An Chinese and Japanese merchants could have purchased Indian cloths traded via Melaka, Ayutthaya and Batavia; the Dutch opened a factory here in 1633, followed by one in Tonkin in 1637, and were eager to trade Indian cloth for ceramics and silks which could be re-sold in Japan.” (qtd. in Balaram 2012: 18, Guy 1998: 156)

Wang Dayuan mentions ‘patterned cloth’ entering China from a number of trading centres in insular Southeast Asia including Sri Vijaya in eastern Sumatra, Palawan and Mindoro in the Philippines and the Sulu and Maluku (Moluccas) regions of eastern Indonesia (qtd. in Guy 1998: 155). There was a belief that the ‘patterned cloth’ of Indian origin were presented to the local rulers, as they were held in high esteem. As the Indian cloth had a higher status than the locally produced cloths in Southeast Asia, it is very likely that these were given as presents (Guy 1998: 155).

I’Tsing who resided for some years in Sri Vijaya Empire, has mentioned that the King possessed numerous ships which sailed regularly between India and Sri Vijaya as also between Sumatra and China. Thus Sri Vijaya kingdom was another place where secondary trading of Indian cottons took place.

Even the documents of *Rekidai Hoan* mention various Indian textiles given as gifts to Ryukyu Kings or as return gifts from the rulers and nobles of Southeast Asian countries, some of which bear the Chinese names of the Indian fabrics (Kobata and Matsuda). Such gifts also “acted as indicators of the tributary state’s international connections and so served to enhance its standing in the eyes of China” (Guy 1998: 155). Huang Xingzeng’s *Xiayangchaogongdianlu* of 1520 CE, catalogues twelve types of textiles brought to China by Thai missions as tribute most of which, from the knowledge of Thai court protocol, were probably Indian (qtd. in Guy 1998: 155).

Trade of Indian Textiles to China

China was one of the earliest eastern markets for Indian textiles. In the world of textiles, India was famous for its cottons and fast, multi-coloured, dyed, painted and printed textiles, while China was known for silks and brocades (Balaram 2007:1, Balaram 2012: 9). Hence, cottons were imported from India while mulberry silks went from China. However, apart from Indian cottons, Indian wild silks were also exported from Bengal to China.

Indian cottons reached China as trade articles as well as gift articles as Indian cotton was valued very highly all over the world due to its softness, fineness, brilliance and fast colours, as well as exotic designs. They were also used as currency in the spice trade as they were considered very valuable. It is well known that Indian textiles such as *patola* were considered as heirloom textiles in Indonesia, which were inherited and preserved.

To establish trading relationships, kings from one country sent missions to other countries, along with gifts. Usually Indian cottons were sent as gifts not only by Indian Kings, but also by Southeast Asian Kings due to their superior quality, as it was a tradition to gift the best.

Based on the writings of the various travellers and official documents many of which are preserved in China, some of the textiles that reached China could be identified.

Use of Indian Cottons as Gift Articles

The use of Indian cotton as a gift article is noted in the 1st century CE by Ban Gu (CE 32~92), who has mentioned that Emperor Wudi received several Indian goods as present and cloth was one of the items included in his list of presents received.

Chinese pilgrim Faxian observed Indian merchants who were conducting trade with his country: “An Indian tribute mission to Emperor Wu in 503 [CE] presented cotton

among its gifts, a rare and highly desirable fabric” (qtd. in Guy 1998: 153, in Balaram 2012 : 16).

Chola Dynasty in South India, whose territories included cotton producing centers of Coromandel coast sent series of missions to China to encourage trade, starting from 1015 till the end of 13th Century CE. Like the Kings of Chola Dynasty, Bengal rulers also sent some tributes from time to time to China, which included a variety of cotton and woollen cloths, which features in lists for the reigns of the Yongle (1402-24 [CE]) and Zhengtong (1435-49 [CE]) (qtd. in Guy 1998: 155).

There are many examples mentioned in Chinese record called *Rekidai Hoan* (Precious Documents of Successive Generations), where various types of Indian cottons which were received as gifts by Emperors and nobles of Chinese, Korean and other eight Southeast Asian kingdoms and further gifted to the envoy of Ryukyu Kingdom (present Okinawa prefecture of Japan), are listed. Documents in *Rekidai Hoan* are from 1414-1867. As the original document is in Chinese, lot of Chinese names for the Indian cottons are found there. For example, Indian chintz are mentioned using Chinese characters 花布 for chintz. Character 花, which is pronounced as *hua* means flower, while character 布, which is pronounced as *pu*, means cloth/fabric/textiles. At times painted and printed cottons are also written with the characters 花棉布. The central character 棉 (*mian*) means cotton. Hence the word *huamianpu* means flowered cotton textiles. Presently, the Google translator translates the chintz with characters 印花棉布 which reads *Yinhuāmiánpù*. The first character 印 (pronounced as *Yin*) is the old character used by the Chinese for India (Balaram 2012:12).

Varieties of Cotton Textiles Traded to China

Two major types of Indian textiles were exported from India. The finest textiles were quite delicate with exquisite craftsmanship. They were of very high standard and were produced for very high end market such as for Emperors, Kings, nobles and rich officials, rich merchants and other rich population. The second type, which were comparatively mass produced, were coarse, very sturdy and long lasting for the use of common people and some selected ones for the rich. The high class Chinese used silk but the common people of China could only use hemp. The coarser cotton from India proved much better than the hemp, hence started replacing the use of hemp for daily wear.

Mulmul was the high-end fabric which was exported to China, as it was delicate, light weight and very soft. Guy in his article ‘The lost temples of Nagapattinam and Quanzhou’ has mentioned, “The fine muslins for which Bengal was famous in the late Roman worldⁱⁱⁱ (evocatively described as ‘woven air’) found their way east to China and emerging

states of Southeast Asia” (Guy 1998: 55). This statement clearly indicates that fine Bengal muslins had first reached Europe and later reached China and even later to the other Southeast Asian countries.

There are several references to Indian *mulmul* (muslin) and chintz being exported to China. “It is interesting to note from a quote of a Chinese writer that high class Chinese ladies of 6th century CE preferred high quality Indian cottons over their own Chinese silk. ‘At a very remote epoch the Indians know how to produce the most varied articles from this [cotton] plant, which they call *tala*’. He [the Chinese writer who flourished in 6th century CE] refers to the exquisite muslins, embroidered with gold and silver, manufactured in the principal cities of India, and his patriotic spirit takes fire at the sight of the noble daughters of the lettered classes preferring for a moment these foreign materials to the queenly and brilliant silken fabrics of his native land” (Dupont- Auberville, qtd. in Balaram 2012 : 16).

As mentioned earlier (Ibid : 6) ‘patterned cloth’ was imported from Nagapattinam, the Chola Dynasty’s principal port and a major centre for the export of cotton goods from the southern Coromandel Coast.

As per Dr. Moti Chandra, Bengal was renowned in the world, for their finely woven goods, especially muslins and other delicate cloths. Before 1500, there are reports that Bengal muslins were exported to China where they were highly prized (qtd. in Parthasarathi 2009 : 21). Moti Chandra has also mentioned that “Bengal and Orissa were famous for fine cotton cloth and elephants” (Chandra 1977: 68).

In spite of its wide spread in China, cotton goods still remained relatively expensive. Ibn Battuta, an Arab traveller, observed in 1344 that a piece of cotton could command a price equivalent to many pieces of silk, in which China was rich.

As China did not cultivate its own cotton till the 12th century CE, and its large scale production in China started only after the 15th century CE, demand for Indian cotton in China was quite high (Balaram 2012: 19). Even after China started producing the cotton, demand for certain types of Indian textiles continued, which are mentioned below.

Cottons exported to China after China started producing cottons

Apart from the high quality Indian textiles, which were suitable as gifting articles, many types of Indian cotton textiles were imported to China to supplement the locally produced cotton. Even after China started producing cotton in large scale, demand for high quality Indian cottons as well as a medium quality cotton fabrics continued. Few of the Indian textiles, which were imported from India to China for supplementing the cotton produced in China, are as mentioned below.

Manzheti, a colored cotton, *shanabafu*, a superior strong cotton, *Xijnbailedali*, a muslin favoured by wealthy Bengalis for using it as turbans; *Chaotaer*, a soft cotton similar to Chinese *sansuo* and a cotton velvet known as *Moheimoluo*, were some of the fine cottons imported from India to China. *Bafta*, known as Chinese *bibu*, a finely woven white fabric was in great demand and most popular among the imported Indian cottons in 14th century China (Guy 1998:155).

The Indian fabrics mentioned in the above paragraph, along with many more, are mentioned in *Rekidai Hoan*, as the textiles presented to the Ryukyu Kings.

Apart from textiles from the Coromandel Coast, textiles from Bengal also reached China. Ma Huan in 1433 refers to ‘five or six varieties of fine stuffs’ made in Bengal which were known to Chinese (qtd. in Guy 1998: 155).

Political influences on the Trade of Indian Cottons

During the period of Song Dynasty (960-1279 CE), Indian textiles fell into the category of unrestricted goods. They were now intended for broader market and were available in growing quantities for the wider use in Chinese society. Thus it no longer remained rare and were reachable by wider range of people.

“The greatest demand for cotton cloth came from the Mongol armies stationed in the northern regions; they needed uniforms made of some kind of warm, light weight and resilient material... Mongols must have perceived the value of cotton textiles: cotton cloth’s strength, durability, and effectiveness as a padded fabric against winter chill, or as a light, absorbent textile against summer heat” (Zurndorfer : 5). Inner linings of Mongol army uniforms, underwear, pants, and inner jackets, excavated at Xinjiang were all cotton (Chao: 19, qtd. in Zurndorfer: 5).

The demand of Indian cottons grew in China to such an extent that Chinese Government placed a cash limit to its trade with South India, which was the major source of Indian textiles. Cotton was also restricted in China many times to safeguard the silk lobby.

Due to the Commutation Act of 1784 [CE], the import of Chinese tea to England increased. To balance the one-sided trade, the Company actively started exporting cottons and opium to China from Bengal and the Coromandel Coast, both of which were targeted at the Chinese mass market. The English East India Company’s trade with China and Southeast Asia got strengthened “through control of the Bay of Bengal, the securing of Penang Island in 1786 [CE], and founding of Singapore in 1819 [CE]” (Guy 1998: 157).

Chinese Cotton

The demand of cotton and the political influences resulted into beginning of cotton cultivation in China. The cotton plant was commercially grown in Heian island from around

the 12th century. Its cultivation quickly spread to the mainland but it was not produced in a large scale until 15th Century, when a rapid increase in urbanization led to an unprecedented demand (Balaram 2012:19). Cotton textile production in China was established after the efforts of Huang Dao Po (c. 1245 – 1330), who learnt the art of spinning and weaving from Li minority of Hainan Island and brought it to her native land of Songjiang. Initiative taken by the Yuan Government to promote the cotton helped its manufacture and spread in China. Due to the limited space, it is not possible to talk about the cotton plant, its cultivation, development and spread of cotton textile production in China. These could be dealt later in the form of another article. However the following paragraph just gives a glimpse of how Chinese textiles were also influenced by Indian textiles.

Influence of Indian Textiles on Chinese Textiles

The Indian painted and printed cottons influenced China and they started ordering designs with Chinese figures for producing it in India. Such Chinese styled textiles came to be known as *Chinnosaries* and became a craze in Europe. Chinese also replicated Indian figurative chintz, i.e. *kalamkaris*, with their own Chinese stories illustrated (Fig. 4) or a Chinese scene painted in the centre instead of the figure of the God placed by Indians in their *kalamkaris*. Indigo dyed cottons become very popular among the Chinese minorities, and replaced the use of hemp as they were stronger, long lasting, smoother and comfortable to wear (Fig. 2, 3).



Figure 2: Chinese minority girl wearing indigo dyed cotton attire



Figure 3: Miao man wearing indigo dyed cotton



Figure 4: Quilt cover having Nagasaki Sarasa made by Chinese, which is influenced by Indian chintz. Courtesy, Nagasaki Prefectural Museum

Conclusion

Fine Indian cottons gifted as well as traded to China were of very high quality and were many folds expensive than the Chinese silks. The rough and strong cottons were in great demand for the local markets as well as from the Mongols. The cottons were superior to the hemp used by the common people of China, hence it started replacing hemp. The great demand of Indian cotton and its high price started efforts towards cultivating cotton and producing cotton textiles in China. Efforts of Hauang Dao Po and Yuan Government helped in establishing cotton production in China. China could not produce very fine quality of cotton and the demand of coarse cotton fabric was also greater than what they could produce. Hence the fine high end cottons as well as the mid quality coarse and strong cotton still remained in great demand even after starting of cotton cultivation in China in 12th century CE and its large scale production in 15th century CE.

Notes

¹ China referred to foreigners as Barbarians

² Late Roman World (mid 3rd century CE-4th century CE)

References

- Balaram, P. T. 2007. Textile Route from India to Japan (Research Report submitted to Japan Foundation, Tokyo).
- Balaram, P. T., S. Balaram and I. Srakar. 2012. *Cotton*. Pondicherry: Upasana.
- Balaram, P. T. 2012. 'Movement of Textiles and Motifs between India, China and Japan', PhD dissertation. Ahmedabad: CEPT University.
- Balaram, P. T. 2014. Spread of Cotton. (Article in print).
- Chandra, M. 1977. *Trade and Routes in Ancient India*. New Delhi: Abhinav Publication.
- Gittinger, M. 1982. *Master Dyers to the World*. Washington D. C. : The Textile Museum.
- Guy, J. 1998. *Woven Cargos, Indian Textiles in the East*. London : Thames and Hudson.
- Iyer, V. 2015. Trade & Commerce. In: Ancient India [http:// ycmglobal. com/ trade_ and_ commerce_ in_ancient_india](http://ycmglobal.com/trade_and_commerce_in_ancient_india).
- Kobata, A. and M. Matsuda. 1969. *Ryukyuan Relations with Korea and South Sea Countries: An Annotated Translation of Documents in Rekidai Hoan*. Kyoto : Atsushi, Kobata.
- Majumdar, R. C. 1927. *Ancient Indian Colonies in the Far East*. Vol. 1. Champa. Greater India Society Publicaiton No. 1. Lahore : The Panjab Sanskrit Book Depot.

- Majumdar, R. C. 1944. *Hindu Colonies in the Far-East*. Calcutta : General Printers and Publishers Ltd.
- Parthasarathi, P. 2009. Cotton Textiles in the Indian Subcontinent. In: Riello G. and P. Parthasarathi (eds.) *The Spinning World: A Global History of Cotton Textiles, 1200-1850*. pp. 181-204. Oxford, New York: Oxford University Press.
- Vollmer, K. and B. Nagai. Silk Roads. China Ships (Exhibition Catalogue).
- Zurndorfer, H. T. The Resistant Fibre: The Pre-modern History of Cotton in China. In : <http://www.lse.ac.uk/economicHistory/Research/GEHN/HELSINKI/Zurndorfer%20.pdf>.

Photo Credits

Fig. 1: The Ancient Indus Civilisation. Web. 7 Jan. 2012. <http://www.harappa.com/har/indus-saraswati.html>

Fig. 2, 3: Photos by Author

Bio-Profile of the Author:

Prof. & HOD, Silpa-Sadana, Sriniketan,

Visva- Fellow, Asia Scholarship Foundation (2003) & Japan Foundation (1995-96, 2006-07)

e-mail : pbalaram2003@yahoo.co.in