

In the late eighteenth century the East India Company was buying goods in India and exporting them to England and Europe, making profit through this sale. However, mechanised production of cotton textiles made Britain the foremost industrial nation in the nineteenth century. And when its Iron and Steel industry started growing from the 1850s, Britain came to be known as the, 'workshop of the world.' With the growth of industrial production, British industrialists began to see India as a vast market for their industrial products, and over time manufactured goods from Britain began flooding India. This resulted in the decline of Indian textiles and steel produced traditionally. The spinners, weavers and iron smelters lost their livelihood. Over time some Indian businessmen established textile mills and iron and steel factories. In the beginning they hardly survived that too without competing the British products. In the long run, however, they progressed. This chapter tells the main part of the story of the crafts and industries of India during British rule.

The Age of Indian Textiles



Trading ships on the port of Surat in the seventeenth century

Before the age of machine industries, silk and cotton goods from India dominated the international market in textiles. **Coarser cottons were produced in many countries, but the finer varieties with exquisite craftsmanship often came from India.** Armenian and Persian merchants took the goods from Punjab to Afghanistan, eastern Persia and central Asia. Bales of fine textiles were carried on camel back via the north-west frontier, through mountain passes and across deserts. A vibrant sea trade operated through the main pre-colonial ports. **Surat** on the Gujarat coast connected India to the Gulf and Red Sea ports; **Masulipatanam** on the Coromandel coast and **Hoogly** in Bengal had trade links with South-east Asian ports (Java, Sumatra and Penang). From the sixteenth century European trading companies began buying Indian textiles for sale in Europe. Around 1750, before the British conquered Bengal, India was by far the world's largest producer of cotton textiles.

Widespread use of some words shows how popular Indian textiles had become in different parts of the world. Some clothes were known by the name of the place where one got them from. For example, European traders first came to know the fine cotton cloth from India carried by Arab merchants in Mosul in present-day Iraq. So, they began referring to all finely woven textiles as 'muslin.' See a good dictionary, it describes muslin as a very thin cotton cloth used for making dresses or curtains. The Portuguese called the cloth 'calico' which they bought from Calicut on the Kerala coast in south-west India. And **Calico** became the general name for all cotton textiles (see a good dictionary).

The word 'Chintz' has come from the Hindi word Chhint meaning a cloth with small and colourful flowery designs. It was produced exclusively for export to Iran and Europe. Bandhna (Hindi for tying) referring to a variety of brightly coloured cloth produced through a method of tying and dyeing. Now the word 'bandanna' refers to any brightly coloured and printed scarf for the neck or head. Bandanna patterns were mostly produced in Rajasthan and Gujarat.

Patola was woven in Surat, Ahmedabad and Patan. Highly valued in Indonesia, it became part of the local weaving tradition there.

There were other cloths that were known by their place of origin : Patna, Calcutta, Kasimbazar, Orissa, Charpoore.

Proto-industrialisation in Europe

Even before factories began to dot the landscape in England and Europe, there was large scale production for an international market. Proto-industrialisation was actually the early phase of industrialisation. In the seventeenth and eighteenth centuries, merchants from the towns in Europe began moving to the countryside, supplying money to peasants and artisans, persuading them to produce for an international market. With the expansion of world trade and the acquisition of colonies in different parts of the world, the demand for goods began growing. But merchants could not expand production within towns. This was because here urban crafts and trade guilds were powerful. These were associations of producers that trained craftspeople, maintained control over production, regulated competition and prices, and **restricted the entry of new people into the trade**. Rulers granted different guilds the monopoly right to produce and trade in specific products. It was, therefore difficult for new merchants to set up business in towns. So, they turned to the countryside. In the countryside poor peasants and artisans began working for the merchants. A merchant clothier in England purchased wool from a wool stapler (sorter of wool according to its fibre) and carried it to the spinners; then to weavers, fullers (who 'full' – gather cloth by pleating or pulling cloth into narrow folds), and then to dyers. The finishing was done in London before the export merchant sold the cloth in the international market. The proto-industrial system was thus, part, of a network of commercial exchanges.

WEAVERS, IRON SMELTERS AND FACTORY OWNERS



Printed design on fine cloth (chintz) produced in Masulipatnam



Patola weaves, mid-nineteenth century

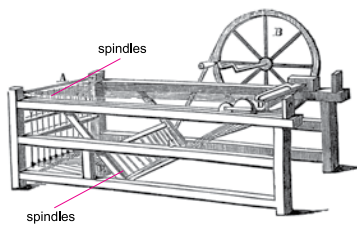


Spinning in the eighteenth century Europe

Indian Textiles in European Markets

By the early eighteenth century wool and silk makers in England were worried by the popularity of Indian textiles. They were unable to compete with Indian textiles. So, they began protesting against the import of Indian cotton textiles. By the Calico Act of 1720, the British government banned the use of chintz (printed cotton textiles) in England. Then the English producers imitated Indian designs and printed them in England on white muslin or plain unbleached Indian cloth. Thus, the Calico printing industry began to grow in the secure market within the country under government protection.

In 1764, the **spinning jenny** was invented by John Kaye which speeded up the spinning process and reduced labour demand. A single worker could set in motion a number of spindles by turning one single wheel and thus, spin several threads at the same time. The invention of the steam engine for weaving machines by Pichard Arkwright in 1786 revolutionised cotton textile weaving. Cloth could now be woven in immense quantities and cheaply too.



A Spinning Jenny

Now, the costly new machines could be purchased and maintained in the mill. Within the mill all the processes were brought together under one roof and management. This allowed a more careful supervision over the production process, a watch over quality, and the regulation of labour all of which had been difficult to do when production was in the countryside.

A range of products could be produced only with hand labour. Machines were oriented to producing uniforms, standardised goods for a mass market. But the demand in the market was often for goods with intricate designs and specific shapes. In Victorian Britain, the upper classes— the aristocrats and the bourgeoisie (rich, educated and owning land etc)— preferred things produced by hand. Handmade products came to symbolise refinement and class. They were better finished, individually produced, and carefully designed. Machine made goods were for export to the colonies.

Indian textiles continued to dominate the world trade till the end of the eighteenth century. European trading companies— the Dutch, the French and the English— made enormous profits out of the flourishing trade.

Weaving Centres in India

Textile production was concentrated in four regions in the early nineteenth century. Till then railways had not developed and roads were only just beginning to be laid on an extensive scale. Bengal was one of the most important centre. Located along the numerous rivers in the delta, the production centres in Bengal could easily transport goods to distant places. Dacca was famous for its mulmul and jamdani (decorative motifs on fine muslin) weaving. There was another cluster of cotton weaving centres along the Coromandel coast stretching from



A sea view of the Dutch settlement in Cochin, seventeenth century

Madras to northern Andhra Pradesh. On the western coast there were important weaving centres in Gujarat.

The Weavers in India

There were communities of specialised weavers in different regions of India. Their skills were passed on from one generation to the next. They were known by different names in different regions. Many a time poor persons though unskilled, used to earn a livelihood by spinning. The charkha and takli were household spinning machines. It was mostly done by women. The thread was spun on the charkha and rolled on the takli. In most communities weaving was a task done by men. For coloured textiles, the thread was dyed. For printed cloth, it was printed with blocks. Millions of Indians were engaged in weaving and the occupations associated with it for their livelihood.

Before establishing political power in the 1760s and 1770s the East India Company had found it difficult to ensure a regular supply of goods for export. The French, Dutch, Portuguese as well as the local traders competed in the market to secure woven cloth. So, the weavers and supply merchants could bargain and try selling the produce to the best buyer. However, once the company established political power, it could assert a monopoly right to trade. It appointed a paid servant called the gomastha to supervise weavers, collect supplies, and examine the quality of cloth. It prevented company weavers from dealing with other buyers. One way of doing this was through the system of advances. The weavers eagerly took the advances, hoping to earn more. Overtime, the weavers found that the price they received from the company was miserably low and the loans they had accepted tied them to the company. Moreover, the gomasthas who were outsiders marched into villages with sepoys and peons and punished weavers for delays in supply, often beating and flogging them. In many places weavers deserted the villages and migrated, setting up looms in other villages where they had some family relation.

Elsewhere, weavers alongwith the village traders revolted, opposing the company and its officials. Overtime many weavers began refusing loans, closing down their workshops and taking to agricultural labour.



Weaving centres : 1500–1750

The Decline of Indian Textiles

As cotton industries developed in England, Indian textiles had to compete with British textiles in the European and American markets. Secondly, the industrial groups of England pressurised the government to impose high import duties on Indian cotton textiles so that Manchester



Ginning



Spinning



Weaving

Three stages for making the cotton fabrics

goods could sell in Britain without facing any competition from outside. At the same time, industrialists persuaded the East India Company to sell British textiles in Indian markets. By the beginning of the nineteenth century, British cotton textiles ousted Indian textiles from their traditional

markets in Africa, America and Europe. Thousands of weavers in India were now thrown out of employment but worse was still to come. By the 1830s British cotton cloth flooded Indian markets. By the 1880s two-thirds of all the cotton clothes worn by Indians were made of cloth produced in Britain. Cotton weavers in India thus faced two problems at the same time : their export market collapsed and the local market shrank. Produced by machines at lower costs, the imported cotton goods were so cheap that weavers could not easily compete with them. By the 1860s, the Indian weavers could not get sufficient supply of raw cotton of good quality. Due to civil war in America, cotton supplies from the US were cut off. Britain turned to India. As raw cotton exports from India increased, the price of raw cotton shot up.

However, handloom weaving did not completely die in India. Some types of clothes like saris with intricate borders or cloths with traditional woven patterns could not be supplied by machines. These had a wide demand not only amongst the rich but also amongst the middle classes. The handlooms continued to produce very coarse cloths made of inferior cotton used by the poor people in India. The British did not produce this cloth.

Cotton Mills Come Up in India



Workers in a cotton factory, year 1900

By the end of the nineteenth century, weavers and other craftspeople faced yet another problem. Cotton mills in India began production, flooding the market with machine made cloths. Some of these handloom weavers found job in the new cotton mills.

Some migrated to cities in search of work. Some went out of the country to work in plantations in Africa and America. Many weavers became agricultural labourers.

The first cotton mill in Bombay came up in 1854 and it went into production two years later. By 1862 four mills were at work into 94,000 spindles and 2,150 looms. In north India, the Elgin Mill was started in Kanpur in the 1862. The first cotton mill of Ahmedabad was set up in 1861. By 1874, the first spinning and weaving mill of Madras began production. By 1900, over 84 mills started operating in Bombay. Many of these were established by Parsi and Gujarati businessmen who had made their money through trade with China. Growth of cotton mills led to a demand for labour. Thousands of poor peasants; artisans and agricultural labourers moved to the cities to work in the mills. Most workers in the spinning departments were women, while workers in the weaving departments were mostly men.

The mills in Ahmedabad and Bombay could get supplies of raw material, that is cotton with ease because they were close to the vast black soil tract of western India where cotton was grown. However, they faced the problem of good quality raw material as they were exported to Britain.

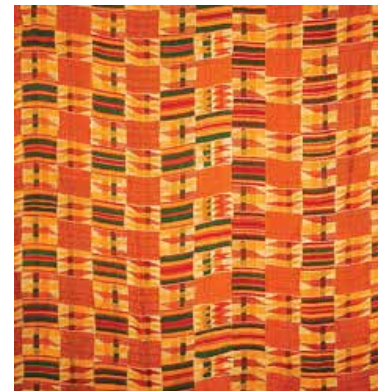
The Indian businessmen avoided competition with Manchester goods in the Indian market. Since yarn (thread) was not important part of British imports into India, the early cotton mills in India produced coarse cotton yarn rather than fabric. This yarn was used by handloom weavers in India or exported to China. From 1906, the export of Indian yarn to China declined and Indian cotton mills shifted from yarn to cloth production. Cotton piece goods production in India doubled between 1900 and 1912. It was difficult to compete with the cheap textiles imported from Britain. The colonial government in India was not ready to protect textiles made in Indian cotton mills by imposing heavy duties on imports. Till the First World War, industrial growth in India was slow. During the First World War when textile imports from Britain declined and the war prolonged, Indian factories were called upon to produce cloth for military supplies –uniforms etc. Suddenly, Indian mills had a vast home market to supply. New factories were set up and old ones ran multiple shifts. Over the war years, industrial production boomed.

After the war, Manchester could never recapture its old position in the Indian markets. Unable to modernise and compete with the US, Germany and Japan, the economy of Britain crumbled after the war. Cotton production collapsed and exports of cotton cloth from Britain fell dramatically. Within the colonies, local industrialists gradually consolidated their position, substituting foreign manufactures and capturing the home market.

Handlooms in the Twentieth Century

While cheap machine-made thread wiped out the spinning industry in the nineteenth century, the weavers survived, despite problems. In the twentieth century, handloom cloth production expanded steadily : almost trebling between 1900 and 1940. This was partly because of adopting the new technology of **fly shuttle**. It is a mechanical device used for weaving, moved by means of ropes and pullies. **It places the horizontal threads** (called the weft) into the vertical threads (called the warp). The invention of the fly shuttle made it possible for weavers to operate large looms and weave wide pieces of cloth. So, by the second decade of the twentieth century we find weavers using looms with a fly shuttle. This increased productivity per worker, speeded up production and reduced labour demand.

In the late nineteenth century, new centres of weaving emerged – Sholapur in western India and Madura in south India. Later, during the national movement, Mahatma Gandhi urged the people to boycott imported textiles and use hand-woven cloths, khadi. It gradually,



A hand woven cloth

became a symbol of nationalism. Charkha was put at the centre of the tricolour flag of the Indian National Congress adopted in 1931.

The intricate designs of the hand-woven cloth could not easily be copied by the mills. The mills could not imitate specialised weaves. Saris with woven borders, or designs on the famous lungis and handkerchiefs of Madras, could not be easily displaced by mill production. These are always in demand by the rich and middle class even today. But the weavers did not prosper. They lived hard lives and worked long hours. They were not simply remnants of past times in the age of factories. Their life and labour was integral to the process of industrialisation.

Smelters

The process of obtaining a metal from its ore (in rock or soil form) by heating it with coal etc. to a very high temperature is called **smelting**. Melting objects made from metal in order to use the metal to produce something new is also called smelting. Iron smelting in India was extremely common till the end of the nineteenth century. In Bihar and Central India, in particular, every district had smelters that used local deposits of ore to produce iron which was widely used for the manufacture of implements and tools of daily use. The furnaces were most often built of clay and Sun-dried bricks. The smelting was done by men while women worked the bellows, pumping air that kept the charcoal burning. Bellows was a device or equipment that can pump air.



Iron smelters of Palamau, Bihar

A special type of high carbon steel called wootz was produced all over south India particularly Mysore. The word 'wootz' is an English version of the Kannada word ukku, Telugu hukku and Tamil and Malayam urukk meaning steel. Wootz steel when made into swords produced an incredibly hard and sharp edge that could easily rip through the opponent's armour. A flowing water pattern could be seen in the sharp edge of the sword. This pattern came from very small carbon crystals embedded in the iron. To produce wootz steel, iron was mixed with charcoal and put inside small clay pots. The pots were kept in the smelting furnaces. Through an intricate control of temperatures the smelters produced steel ingots. These were used for sword making in India and West and central Asia.

The sword of Tipu Sultan was made of wootz steel in the late eighteenth century. Notice the tiger head towards the bottom of the handle.

Some communities were specialised in the craft of iron smelting. By the late nineteenth century, this craft declined. According to the new forest laws the smelters could not enter the reserved forest to find wood for charcoal. In some areas they had to pay a very high tax for every furnace they used. This reduced their income. The wootz steel making process, which was so widely known in south India, was completely lost by the mid-nineteenth century. The swords and armour industry died with the conquest of India by the British. By the late nineteenth century



Tipu Sultan's sword

iron and steel was being imported from Britain. Iron smiths began using the imported iron to manufacture utensils and implements. The demand for iron produced by local smelters decreased. By the early twentieth century, iron and steel factories came up in India. And local iron smelters were completely wiped off.

Tata Iron and Steel Company (TISCO) began producing steel in 1912. It was set up at Jamshedpur on the banks of the river Subarnarekha. Here there was iron ore deposits and water both. Till now India was importing steel that was manufactured in Britain. Expansion of railways in India had provided a huge market for rails that Britain produced. Just after TISCO was set up, the First World War broke out in 1914. Steel produced in Britain now had to meet the demands of war in Europe. Imports of British steel into India declined considerably. The Indian Railways asked the TISCO to supply rails. As the war prolonged for several years, TISCO also produced shells and carriage wheels for the war. By 1919 the colonial government was buying 90 per cent of the TISCO steel. To meet the demands of the war, TISCO had to expand its capacity and extend the size of its factory. However, the expansion continued after war in 1919.

Indian Wootz and European Scientists

Indian Wootz steel fascinated European scientists. Michael Faraday, the legendary scientist and discoverer of electricity and electromagnetism, spent four years studying the properties of Indian wootz (1818–1822).

The colonial government was always unwilling to support Indian industrialists. Rather colonial dominion created barriers to industrialisation. Industrial expansion occurred only when British imports into India declined during the First World War and after. The increase in the demand for Indian industrial goods made the industrial class stronger. As the nationalist movement developed, they demanded government protection for the industries. In the last decades of colonial rule in India, the British government was struggling to retain its control over India. It had to accept many of the demands of the industrialists.

In Other Parts of the World

Industrialisation in Japan

In the late nineteenth century, the Meiji regime felt the need of industrialisation to prevent foreign conquest. The Japanese imported the most advanced technology from the west. Foreign experts were brought to train Japanese professionals. The basic needs of industries—postal services, telegraph, railways and steam powered shipping were developed. Industrialists were given generous loans for investment by banks set up by the government. Thus, the state in Japan encouraged the growth of industries.



The Tata Iron and Steel factory on the banks of the river Subarnarekha, 1940

 **Key Words**

- » Muslin : thin and finely woven cotton textiles.
- » Calico : general name for all cotton textiles.
- » Chintz : a cloth with small and colourful flowery designs.
- » Bandanna : a bright coloured and printed scarf for the neck or head.
- » Spinning Jenny : a machine by which a single worker could operate several spindles by turning a single wheel.
- » Smelting : the process of obtaining a metal from the ore (in rock or soil form) by heating it with charcoal to a very high temperature.
- » Bellows : a device or equipment that can pump air.
- » Wootz steel : a high carbon hard steel, the swords made by which, had incredibly hard and sharp edge.

SUMMARY

- ▶ Before the age of machine industries, silk and cotton goods from India dominated the international market in textiles.
- ▶ Widespread use of some words— muslin, calico, chintz, bandanna shows how popular Indian textiles had become in different parts of the world.
- ▶ Mechanised production of cotton textiles made Britain the foremost industrial nation in the nineteenth century.
- ▶ Machines were oriented to producing uniforms, standardised goods for a mass market. Machine made goods were for export to the colonies.
- ▶ Handmade products came to symbolise refinement and class. They were better finished, individually produced and carefully designed.

Exercise Time

A. Tick (✓) the only correct choice amongst the following :

1. _____ connected India with the south-east Asian ports.
a. Madras b. Surat c. Masulipatnam d. Delhi
2. Patola was highly valued in _____.
a. Europe b. Indonesia c. Asia d. Africa
3. By the Calico Act of 1720, the British government banned the use of _____ in England.
a. muslim b. calico c. chintz d. bandanna
4. The Indian textile mills produced _____ in the beginning.
a. yarn b. fabric c. fibre d. cloth
5. Horizontal threads in a handloom are called _____.
a. warp b. rope c. weft d. product

B. Fill in the blanks :

1. The word chintz comes from the word _____.
2. Tipu Sultan's sword was made of _____ steel.
3. India's textile exports declined in the _____ century.
4. Sword made of the wootz steel had an incredibly _____ and _____ edge.
5. Handmade products came to symbolise _____ and _____.



C. Match the Following :

- | | |
|-------------------|----------------------------------------------------------------------------------------|
| 1. Chintz | a. a brightly coloured and printed scarf for the neck or head |
| 2. Bandanna | b. a machine by which a single worker could operate several spindles |
| 3. Wootz | c. a cloth with small and colourful flowery designs |
| 4. Spinning jenny | d. the process of obtaining a metal from its ore by heating to a very high temperature |
| 5. Smelting | e. high carbon steel used to make swords of hard and sharp edge |

D. Write true (T) or False (F) against the following statements in given brackets :

1. The international market for fine textiles was dominated by India till the eighteenth century.
2. The British gave no protection to Indian industries.
3. The American civil war resulted in the reduction of cotton exports from India.
4. The cotton mill in Bombay imported cotton for its requirements.
5. The introduction of the fly shuttle enabled handloom workers to improve their productivity.

E. Define the terms :

- | | | | |
|----------------|-------------|-------------------|-----------|
| 1. Bandanna | 2. Chintz | 3. Calico | 4. Muslin |
| 5. Wootz steel | 6. Smelting | 7. Spinning Jenny | |

F. Answer in one word or one phrase :

1. What kinds of cloth had a large market in Europe ?
2. Which place was the origin of the cloth 'Calico' ?
3. Who restricted the entry of new people into the textile trade in the towns of Europe ?
4. Who preferred things produced by hand in Victoria Britain ?
5. What symbol was put at the centre of the tricolour flag of the Indian National Congress adopted in 1931 ?

G. Answer these question briefly :

1. How do the names of different textiles tell us about their histories ?
2. Why did the wool and silk producers in England protest against the import of Indian textiles in the early eighteenth century ?
3. How did the development of cotton industries in Britain affect textile producers in India ?
4. Why did the Indian iron smelting industry decline in the nineteenth century ?
5. What problems did the Indian textiles industry face in the early years of its development ?

H. Answer these question detail :

1. What factors affected the decline of Indian handicrafts during the British rule ?
2. Describe the history of history of Indian weavers from seventeenth to twentieth century.
3. Describe the history of the iron smelters in India.
4. How did the Indian industries established in the nineteenth and twentieth centuries survive ?
5. Write a note on 'handlooms in the twentieth century' ?

PROJECT WORK

- Select any one industry in your region and find out its history. How has the technology changed over time? Where do the workers come from? Are the products exported and to where? What are their markets in India? Try to talk to the employers and some workers to get the information.