

THE AGE OF INDUSTRIALISATION

CHAPTER COVERAGE

- Before the Industrial Revolution
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Before the Industrial Revolution

- (i) Histories of industrialisation very often begin with the setting up of the first factories. Even before factories began to dot the landscape in England and Europe, there was large-scale industrial production for an international market. This was not based on factories. Many historians now refer to this phase of industrialisation as proto-industrialisation.
- (ii) 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. Rulers granted different guilds the monopoly right to produce and trade in specific products. New merchants turned to the countryside.
- (iii) In the countryside when open fields were disappearing and commons were being enclosed, cottagers and poor peasants had to now look for alternative sources of income. When merchants came around and offered advances to produce goods for them, peasant households eagerly agreed. Income from proto-industrial production supplemented their shrinking income from cultivation. It also allowed them a fuller use of their family labour resources.
- (iv) Within this system a close relationship developed between the town and the countryside. Merchants were based in towns but the work was done mostly in the countryside. The finishing was done in London before the export merchant sold the cloth in the international market.

◆ The Coming up of the Factory :

The earliest factories in England came up by the 1730s. But it was only in the late eighteenth century that the number of factories multiplied. The first symbol of the new era was cotton. Its production boomed in the late nineteenth century. In 1760 Britain was importing 2.5 million pounds of raw cotton to feed its cotton

industry. By 1787 this import soared to 22 million pounds. This increase was linked to a number of changes within the process of production.

In the early nineteenth century factories increasingly became an intimate part of the English landscape. So visible were the imposing new mills, so magical seemed to be the power of new technology, that contemporaries were dazzled. They concentrated their attention on the mills, almost forgetting the bylanes and the workshops where production still continued.

- (i) A series of inventions (Richard Arkwright created the cotton mill) in the eighteenth century increased the efficacy of each step of the production process.
- (ii) Now the costly new machines could be purchased, set up and maintained in the mill.
- (iii) All the processes were brought under one roof and management, which allowed supervision over the production process, a watch over quality, and the regulation of labour.
- (iv) In the early nineteenth century, factories increasingly became an intimate part of the English landscape. So visible were the imposing new mills that contemporaries were dazzled. They concentrated their attention on the mills, almost forgetting the bylanes and the workshops where production still continued.

◆ The Pace of Industrial Change :

- (i) **Main industries :** Cotton and metal industries were the most dynamic industries in Britain. Cotton was the leading sector in the first phase of industrialisation up to the 1840s, but the iron and steel industry led the way after 1840s. By 1873 Britain was exporting iron and steel worth about \$ 77 million, double the value of its cotton export.
- (ii) **Domination of traditional industry :** The modern machinery and, industries could not easily displace traditional industries. Even at the end of the nineteenth century, less than 20 percent of the total work force was employed in technologically advanced industrial sectors.
- (iii) **Base for growth :** The pace of change in the traditional' industries was not set by steam powered cotton or metal industries. it were the ordinary and small innovations which built up the basis of growth in many non-mechanised sectors.
- (iv) **Slow pace :** Though technological inventions were taking place but their pace was very slow. They did not spread dramatically across the industrial landscape. New technologies and machine were expensive so the producers and the industrialists were cautious about using them. The machines often broke down and repair was costly. They were not as effective as their inventors and manufactures claimed.

James Watt improved the steam engine produced by Newcomen and patented the new engine in 1781. His industrialist friend Mathew Boulton manufactured the new model. But for years he could find no buyers. At the beginning of the nineteenth century, there were no more than 321 steam engines all over England. Of these, 80 were in cotton industries, nine in wool industries, and the rest in mining, canal works and iron works. Steam engines were not used in any of the other industries till much later in the century. So even the most powerful new technology that enhanced the productivity of labour manifold was slow to be accepted by industrialists.

➤ Hand Labour And Steam Power

- (i) In Victorian Britain there was no shortage of human labour. Poor peasants and vagrants moved to the cities in large numbers in search of jobs, waiting for work. So industrialists had no problem of labour shortage or

high wage costs. They did not want to introduce machines that got rid of human labour and required large capital investments.

- (ii) In industries where production fluctuated with the season, industrialists usually preferred hand labour, employing workers for the season. 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, which required human skill, not mechanical technology.
- (iii) 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.
- (iv) In countries with labour shortage, industrialists were keen on using mechanical power so that the need for human labour can be minimised. This was the case in nineteenth-century America. Britain, however had no problem hiring human hands.

After the 1840s, building activity intensified in the cities, opening up greater opportunities of employment. Roads were widened, new railway stations came up railway lines were extended, tunnels dug, drainage and sewers laid, rivers embanked. The number of workers employed in the transport industry doubled in the 1840s, and doubled again in the subsequent 30 years.

◆ Life of the Workers :

The process of industrialisation brought with it miseries for newly emerged class of industrial workers.

- (i) **Abundance of labour :** As news of possible jobs travelled to the countryside, hundreds tramped to the cities. But everyone was not lucky enough to get an instant job. Many job seekers had to wait weeks, spending nights under bridges or in night shelters. Some stayed in Night Refuges that were set up by private individuals; other went to the Casual Wards maintained by the Poor Law authorities.
- (ii) **Seasonality of work :** Seasonality of work in many industries meant prolonged periods without work. After the busy season was over, the poor were on the streets again. They either returned to the countryside or looked for odd jobs, which till the mid-nineteenth century were difficult to find.
- (iii) **Poverty and unemployment :** At the best of times till the mid-nineteenth century, about 10% of the urban population was extremely poor which went upto anything between 35 and 75% during periods of economic slump. The fear of unemployment made workers hostile to the introduction of new technology. When the Spinning Jenny was introduced in the woolen industry. Women who survived on hand spinning began attacking the new machines.
- (iv) Roads were widened, new railway stations came up railway lines were extended, tunnels dug, drainage and sewers laid, rivers embanked. The number of workers employed in the transport industry doubled in the 1840s, and doubled again in the subsequent 30 years. After the 1840s, building activity intensified in the cities, opening up greater opportunities of employment.

➤ Industrialisation in the Colonies

- (i) **The Age of Indian Textiles :** 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 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. Masulipatam on the Coromandel coast and Hoogly in Bengal had trade links with Southeast Asian ports.

- ◆ **A complex and complete market :** Before the arrival of outsiders the trade was handled by a variety of Indian merchants and bankers. The whole process of trade basically involved three steps -

- Financing production
- Carrying or transporting goods
- Supplying goods to the exports

Supply merchants linked the port towns to the inland regions. They gave advances to weavers, procured the woven cloth from weaving villages, and carried the supply to the ports. At the port, the big shippers and export merchants had brokers who negotiated the price and bought goods from the supply merchants operating inland.

However, once the East India Company established political power, it could assert a monopoly right to trade. It proceeded to develop a system of management and control that would eliminate competition, control costs, and ensure regular supplies of cotton and silk goods. This it did through a series of steps.

- (a) **The Company tried to eliminate the existing traders and brokers** connected with the cloth trade, and establish a more direct control over the weaver. It appointed a paid servant called the gomastha to supervise weavers, collect supplies, and examine the quality of cloth.
- (b) **It prevented Company weavers from dealing with other buyers.** One way of doing this was through the system of advances. Once an order was placed, the weavers were given loans to purchase the raw material for their production. Those who took loans had to hand over the cloth they produced to the gomastha. They could not take it many other trader.

(ii) Effects :

- (a) Soon, however, in many weaving villages there were reports of clashes between weavers and gomasthas. Earlier supply merchants had very often lived with in the weaving villages, and had a close relationship with the weavers, looking after their needs and helping them in times of crisis. The new gomasthas were outsiders, with no long-term social link with the village. They acted arrogantly, marched into villages with **sepoys** and peons, and punished weavers for delays in supply-often beating and flogging them. The weavers lost the space to bargain for prices and sell to different buyers; the price they received from the Company was miserably low and the loans they had accepted tied them to the Company.
- (b) In many places in Carnatic and Bengal, weavers deserted villages and migrated, setting up looms in other villages where they had some family relation. Elsewhere, weavers along with the village traders revolted, opposing the Company and its officials. Over time many weavers began refusing loans, closing down their workshops and taking to agricultural labour.
- (c) Many weavers had small plots of land which they had earlier cultivated along with weaving, but now they had to lease out the land and devote all their time to weaving.

(iii) Manchester Comes to India :

- (a) As cotton industries developed in England, industries groups began worrying about imports from other countries. They pressurised the government to impose import duties on cotton textiles so that Manchester goods could sell in Britain without facing any competition from outside.

- (b) At the same time industrialists persuaded the East India Company to sell British manufactures in Indian markets as well. Exports of British cotton goods increased dramatically in the early nineteenth century.
- (c) At the end of the eighteenth century there had been virtually no import of cotton piece-goods into India. But by 1850 cotton piece-goods constituted over 31 per cent of the value of Indian imports; and by the 1870s this figure was over 50 per cent.
- (d) Cotton weavers in India thus faced two problems at the same time : their export market collapsed, and the local market shrank, being glutted with Manchester imports. Produced by machines at lower costs, the imported cotton goods were so cheap that weavers could not easily compete with them. By the 1850s, reports from most weaving regions of India narrates stories of decline and desolation.
- (e) By the 1860s, weavers faced a new problem. They could not get sufficient supply of raw cotton of good quality. When the American Civil War broke out and 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. Weavers in India were starved of supplies and forced to buy raw cotton at higher prices. In this situation weaving could not pay.
- (f) By the end of the nineteenth century, weavers and other crafts people faced yet another problem. Factories in India began production, flooding the market with machine-goods.

➤ **Factories Come Up**

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 with 94,000 spindles and 2,150 looms. Around the same time jute mills came up in Bengal, the first being set up in 1855 and another one seven years later, in 1862. In north India, the Elgin Mill was started in Kanpur in the 1860s, and a year later the first cotton mill of Ahmedabad was set up. By 1874, the first spinning and weaving mill of Madras began production.

- (i) **The Early Entrepreneurs :** Many Indians became junior players in this trade, providing finance, procuring supplies, and shipping consignments. Having earned through trade, some of these business men had visions of developing industrial enterprises in India. In Bengal, Dwarkanath Tagore made his fortune in the China trade before he turned to industrial investment, setting up six joint-stock companies in the 1830s and 1840s. Tagore's enterprises sank along with those of others in the wider business crises of the 1840s, but later in the nineteenth century many of the China traders became successful industrialists. In Bombay, Parsis like Dinshaw Petit and Jamsedjee Nusserwanjee Tata who built huge industrial empires in India, accumulated their initial wealth partly from exports to China, and partly from raw cotton shipments to England, Seth Hukumchand, a Marwari businessman who set up the first Indian jute mill in Calcutta in 1917, also traded with China. So did the father as well as grandfather of the famous industrialist G.D. Birla.

As colonial control over Indian trade tightened, the space within which Indian merchants could function became increasingly limited. They were barred from trading with Europe in manufactured goods, and had to export mostly raw materials and food grains - raw cotton, opium, wheat and indigo-required by the British. They were also gradually edged out of the shipping business.

(ii) **Where did the workers come from ? :**

- (a) In most industrial regions workers came from the districts around. Peasants and artisans who found no work in the village went to the industrial centres in search of work. Over 50 per cent workers in the Bombay cotton industries in 1911 came from the neighbouring district of Ratnagiri, while the mills of Kanpur got most of their textile hands from the villages within the district of Kanpur. Most often mill workers moved between the village and the city, returning to their village homes during harvests and festivals.

- (b) Over time, as news of employment spread, workers travelled great distances in the hope of work in the mills. From the United Provinces, for instance, they went to work in the textile mills of Bombay and in the jute mill of Calcutta.
- (c) Getting jobs was always difficult. The numbers seeking work were always more than the jobs available. Entry into the mills was also restricted. Industrialists usually employed a jobber to get new recruits. He got people from his village, ensured them jobs, helped them settle in the city and provided them money in times of crisis.

➤ **The Peculiarities of Industrial Growth**

- (i) European Managing Agencies, which dominated industrial production in India, were interested in certain kinds of products. They established tea and coffee plantations, acquiring land at cheap rates from the colonial government; and they invested in mining, indigo and jute.
- (ii) When Indian businessmen began setting up industries in the late nineteenth century, they avoided competing with Manchester goods in the Indian market.
- (iii) By the first decade of the twentieth century a series of changes affected the pattern of industrialisation. Industrial groups organised themselves to protect their collective interests, pressurising the government to increase tariff protection and grant other concessions.
- (iv) Till the First World War, industrial growth was slow. The war created a dramatically new situation. With British mills busy with war production to meet the needs of the army, Manchester imports into India declined. Suddenly, Indian mills had a vast home market to supply. As the war prolonged, Indian factories were called upon to supply war needs. New factories were set up and old ones ran multiple shifts. Many new workers were employed and everyone was made to work longer hours. Over the war years industrial production boomed.
- (iv) After the war, within the colonies, local industrialists gradually consolidated their position, substituting foreign manufactures and capturing the home market.

◆ **Small-Scale Industries Predominate :**

- (i) While factory industries grew steadily after the war, large industries formed only a small segment of the economy. Small-scale production continued to predominate. Only a small proportion of the total industrial labour force worked in registered factories. The rest worked in small workshops and household units often located in alleys and bylane, invisible to the passer by.
- (ii) Handicrafts production actually expanded in the twentieth century. While cheap machine-made thread wiped out the spinning industry in the nineteenth century, handloom cloth production expanded steadily almost trebling between 1900 and 1940.
- (iii) Handicrafts people adopted new technology as that helped them improving production without excessively pushing up costs. By the second decade of the twentieth century weavers were using looms with fly shuttle, which increased productivity per worker, speeded up production and reduced labour demand.
- (iv) Certain groups of weavers were in better position than others to survive the competition with mill industries. The coarser cloth was bought by the poor and its demand fluctuated violently. The demand for the finer varieties bought by the well-to-do was more stable. Famines did not affect the sale of Banarasi or Baluchari saris. Moreover, mills could not imitate specialised weaves. Saris with woven borders, or the famous lungis and handkerchiefs of Madras, could not be easily displaced by mill production.

- (v) Weavers and other craftspeople who continued to expand production through the twentieth century, did not necessarily prosper. They lived hard lives and worked long hours. But they were not simply remnants of past times in the age of factories. Their life and labour was integral to the process of industrialisation.

➤ **Market For Goods**

British manufactures attempted to take over the Indian market on the other hand Indian weavers and craftsmen, traders and industrialists resisted colonial controls, demanded tariff protection, created their own spaces, and tried to extend the market for their produce.

(a) **Methods used by producers to expand their markets :**

- (i) **Advertisement :** Advertisements make products appear desirable and necessary. They try to shape the minds of people and create new needs. From the very beginning of the industrial age, advertisements have played a part in expanding the markets for products, and in shaping a new consumer culture.
- (ii) **Labeling :** When Manchester industrialists began selling cloth in India, they put labels on the cloth bundles. The label was needed to make the place of manufacture and the name of the company familiar to the buyer. The label was also to be a mark of quality. When buyers saw 'MADE IN MANCHESTER' written in bold on the label, they were expected to feel confident about buying the cloth. Labels also carried images and were very often beautifully illustrated.
- (iii) **Calendars :** By the nineteenth century, manufacturers were printing calendars to popularise their products. Unlike newspapers and magazines, calendars were used even by people who could not read. They were hung in tea shops and in poor people's homes just as much as in offices and middle-class apartments. And those who hung the calendars had to see the advertisements, day after day, through the year. Even in these calendars image of gods and goddesses were used to attract the consumers.
- (iv) **Images of gods, goddesses and personages :** Images of Indian gods and goddesses regularly appeared on labels. it was as if the association with gods gave divine approval to the goods being sold, was also intended to make the manufacture from a foreign land appear somewhat familiar to Indian people. Like the images of gods, figures of important personages, of emperors and nawabs, adorned advertisements and calendars. The message : if you respect the royal figure, then respect this product; when the product was being used by kings, or produced under royal command, its quality could not be questioned.
- (v) **Advertisement by Indian producers :** When Indian manufacturers advertised the nationalist message was clear and loud. If you care for the nation then buy products that Indians produce. Advertisements became a vehicle of the nationalist message of Swadeshi.

➤ **Important Terms**

1. Spinning Jenny-devised James Hargreaves in 1764.
2. Building activities intensified in the cities after 1840.
3. Place goods accounted for 33 % of Indian's export in 1811-12.
4. India's export reduced by 1950-51
5. Cotton piece goods constituted over 31 % by 1850.
6. The first cotton mill in Bombay come up in 1854.
7. Four mills were at work by 1862.
8. The first Jute Mill set up in Bengal in 1855.

9. The Elgin Mill was started in Kanpur in 1860.
10. The first cotton mill of Ahemdabad was set up by 1874.
11. There were 2,436,000 workers in Indian factories by 1946.
12. Cotton piece goods production in India doubled between 1910-12.
13. Handloom production almost trebling between 1900 and 1940.

GLOSSARY

1. **Innovation** : Newly produced or introduced; a novelty.
2. **Guild** : An association of craftman or merchants following same craft to protect the members interest and supervise the standard of the work.
3. **Stapler** : A person who staples or sorts wool according to its fibre.
4. **Fuller** : A person who fulls - gathers cloth by pleating.
5. **Carding** : A process of preparing fibres such as cotton or wool, prior to spinning.
6. **Efficacy** : Effectiveness; power to produce certain effect.
7. **Mill** : Building fitted with machinery for manufacturing processes/factory.
8. **Tanning** : Convert raw hide into leather by soaking in liquid containing tannic acid.
9. **Food Processing** : Technique of copping and mixing food for making Jam, Juices etc.
10. **Victorian Britain** : Britain during the reign of Queen Victoria.
11. **Vagrant** : A person without a settled home or regular work.
12. **Brewery** : A place where beer etc. is brewed commercially Brewing is a process of infusion, boiling and fermentation.
13. **Night Refuge** : Night shelter for homeless people.
14. **Company officials** : Officials of the East India company.
15. **Bourgeoise** : The upper middle class.
16. **Monopoly** : Exclusive right of trade in an article or good granted by some authority or licence authorising this.
17. **Gomastha** : An Indian word meaning an agent, a middleman between the merchant and weavers. He was a paid servant of the British Government to supervise weavers, collect supplies and examine the quality of cloth.
18. **Sepoy** : Indian soldier of the British army.
19. **Fly shuttle** : A shuttle worked by machinery (shuttle is a small instrument or soliding thread holder that carries the under thread in a sewing machine.)
20. **Proto-Industrialisation** : the early phase of industrialisation in which large scale production was carried out for international market not at factories but in decentralised units.
21. **Trade Guilds** : These were the associations of producers that trained craftspersons, maintained control over production, regulated competition and prices, and restricted the entry of new people in trade.