



The Age of Industrialization (Easy Notes for Class 10th)

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Introduction:

'The world is dynamic and so are the ideas of people'. This characteristic made us progress in science, technology and many other fields. In this chapter we will discuss one such example of change i.e. '[industrialization](#)'. This age of industrialization began in Great Britain in the mid of the 18th century. In later years, it began to develop in many other countries as well. So, this chapter will help you observe the journey of industrialization. Furthermore, you will come to understand the reason that made it happen.

Two images of 1900's:

- **First image:** The Dawn of the Century (cover page) published by E.T. Paull in 1900.
 - This image shows a Goddess-like figure standing at the center which represents the angel of progress.
 - Also, She is bearing the flag of the new century.

- She is gently perched on a wheel with wings, symbolizing time.
- Behind her, are the signs of progress; railway, camera, machines, printing press and factory.
- **Second image:** Two Magicians, published on 26 January 1901.
 - There is the [Orient](#) Character Aladdin who built a beautiful palace with his magic lamp.
 - He is representing the East and the past.
 - At the bottom, there is another character, a modern mechanic.
 - He has modern tools to build bridges, ships, towers and high-rise buildings.
 - He represents the West and modernity.

Both the images are the account of the formation of the Modern World.

1. Before the Industrial Revolution:

Industrial Revolution: *It means the transformation of the economy from handicraft to machine manufacturing.*

- We often associate industrialization with the growth of the Factory Industry. However, even before factories began to set up, there was large-scale industrial production for an international market.
 - **Industrialization:** The phase when industries developed and gave way to mass production.
 - **Proto-industrialization:** It refers to a phase of early industrialization that was not based on the factory system. There was an agrarian and handicraft economy.
 - **Production in towns:-** In the 17th and 18th century, Merchants could not expand production within towns.
 - The growing demand did not match production. It was due to several reasons:-
 1. **Presence of powerful crafts and trade guilds:** Urban crafts and trade guilds were powerful. These were associations of producers that trained craftspeople, maintained control over production, regulated competition and prices. They also restricted the entry of new people into trade.
 2. **Monopoly rights by rulers:** Rulers granted different guilds the monopoly right to produce and trade in specific products.
 - **Production in the countryside:-** Merchants from towns began giving work to poor peasants and artisans for supply.
 - Poor peasants were also eager to work since they had tiny plots of lands which could not provide work for all members of the household. Moreover, merchants were offering them advances to produce goods. They had mainly *two benefits*:-
 1. Income from Proto-industrial production supplemented their shrinking income from cultivation.
 2. It also allowed them a fuller use of their family labor resources.
- Production process created a close relationship between the town and the countryside.
 - From purchasing wool to finishing involved both; the towns and the countryside.
 - for Example: Wool Stapler, spinners, weavers, fullers, dyers (in the countryside). And finishing in London.
 - Each stage of production employed 20-25 workers by each merchant.
- However, there was no efficiency in this system of Proto-industrialization.

1 A. The Coming up of the factory:

- The earliest factories in England came up by the 1730's.
- The first symbol of this new era was cotton.
 - Its production boomed in the late nineteenth century from 2.5 million pounds of raw cotton (in 1760) to 22 million pounds (1787).
- The reason for the increase in the demand of raw cotton was a series of inventions in the 18th century.
 - **Invention of processes** like carding, twisting, spinning and rolling enhanced the output per worker and made possible the production of stronger threads and yarn.
 - **Introduction of Cotton mill:** Richard Arkwright created the cotton mill. It helped in managing the work of each stage under one roof. Furthermore, this allowed a more careful supervision over the production process, a watch over quality and the regulation of labor.
- Although, the production still continued in workshops.

1 B. The Pace Of Industrial Change:

- Industrial change was gradual.
 1. **Change in particularly two sectors:** In Britain, cotton and metals were the most dynamic industries. In the first phase of industrialization, cotton was the leading sector. After that the Iron and steel industry led the way.
 2. **Growth of traditional industries:** New industries could not easily displace traditional industries. It is because only 20% of total workers were in the industrial sector. Large portion of the output was still produced within domestic units.
 3. **Traditional Industries too had developed:** Traditional industries updated themselves and improved their skills.
 4. **Acceptance of new technology:** New technology was expensive and merchants and industrialists were cautious about using it. Thus, technological changes occurred slowly.
 - *For Example: James Watt improved the steam engine produced by Newcomen and patented the new engine in 1781. After that Mathew Boulton manufactured the new model. But for years he could find no buyers. There were no more than 321 steam engines all over England.*

2. Hand Labor and Steam Power:

- In Victorian Britain there was **no shortage of human labor**.
- Instead there was the situation of **unemployment**.
- Peasants and vagrants **moved to the cities in large numbers** in search of jobs, waiting for work.
- **Wages were low** due to abundance of labor.
- **Industrialists preferred laborers** than machines.
- However, in many industries the **demand for labor was seasonal**.
 - *For Example:* Gas works, breweries and ship repair were especially busy through the cold months.
 - Demand for Bookbinders and printers near Christmas.
- A range of products could be produced only with hand labor.

- Machines were oriented to producing uniforms, standardized goods for a mass market.
- **Traditional work had demand:**
 - The demand in the market was often for goods with intricate designs and specific shapes which required human skills.
 - The Aristocrats and the Bourgeoisie preferred things produced by hand. Handmade products came to symbolize refinement and class.
- But this was not the case in America where there was a labor shortage. They were keen to use mechanical power.

2 A. Life of the Workers:

- There was an abundance of labor in the market.
- The news of jobs made people travel from the countryside to cities.
- However, the actual possibility of getting a job depended on existing networks of friendship and kin relations.
- There were many **problems that people had to face:-**
 - **Long search for jobs:** Many job seekers had to wait weeks, spending nights under bridges or in night shelters. Some people stayed in Night Refuges and others in casual wards.
 - **Seasonality of work:** In many industries work was available only in the busy season. Due to which some returned to the countryside after the winter but most looked for odd jobs.
 - **Rise in price and decline in real value:** During the prolonged Napoleonic War, the real value of what the workers earned fell. It meant that the same wages could now buy fewer things.
 - **The Period of Employment:** The income of the workers depended not on the wage rate alone. Even if the wages earned by workers were better, the short period of employment could not make them meet their expenses throughout the year.
 - **The Introduction of Spinning Jenny:** It was introduced in 1764 by James Hargreaves. This device took the place of women who survived on hand spinning. As a consequence, women began attacking the new machine.
- However, **employment opportunities for construction laborers** after 1840's increased.
 - Building activity intensified in cities. *For Example:* Roads were widened, new railway stations came up, railway lines were extended, tunnels dug, drainage and sewers laid, rivers embanked. Transport industry employed a large number of workers.

3. Industrialization in the colonies:

India which was one of the colonies of Britain also experienced industrialization. So let us discuss the textile industry of India during the Pre-colonial era.

3 A. The Age of Indian Textiles:

- Before the age of machine industries, **silk and cotton goods** from India **dominated the international market.**
- India produced **finer varieties** of cotton and silk.
- **Armenian and Persian merchants** took the goods from Punjab to Afghanistan, eastern Persia

and Central Asia.

- They **carried textile** on camels back **through mountain passes and across deserts**.
- The vibrant **sea trade** operated through the main pre-colonial ports.
 - **Surat** on the Gujarat coast connected India to Gulf and Red Sea Ports.
 - **Masulipatam** on the Coromandel coast and **Hooghly** in Bengal had trade links with Southeast Asian ports.
- A variety of **Indian merchants and bankers** were involved in this network of export trade.
 - *For Example:* financing production, carrying goods and supplying exporters, everything was controlled by Indian merchants.
- Merchants gave advances to weavers (in villages) for supply and carried the supply to the ports.
- At the port, the big shippers and export merchants with the help of brokers negotiated the price and bought goods from the supply merchants operating inland.

Breaking down of the control of Indian merchants:

- The European companies gradually gained power.
 - First, they secured a variety of concessions from local courts.
 - Then the monopoly rights to trade.
- This resulted in a **decline of the old ports of Surat and Hooghly** through which local merchants had operated.
- The exports of these ports fell, credit began drying up and the local bankers slowly went bankrupt.
 - *For example:* The gross value of trade that passed through Surat fell from 16 million to 3 million.
- New ports; **Bombay and Calcutta** grew. These ports were the **indicator of the growth of colonial power**.
 1. Trade through the new ports came to be controlled by European companies, and was carried in European ships.
 2. Moreover, trading companies who wanted to survive had to now operate within a network shaped by European trading companies.

3 B. What happened to Weavers:

- Even After the 1760's, textile exports from India did not decline. It was due to **two reasons**:-
 - Firstly, the British cotton industry was at its infant age.
 - Secondly, Indian fine textiles were in great demand in Europe.
- So the company was keen on expanding textile exports from India.
- There were mainly **two problems** that the East India Company confronted.
 1. **No regular supply of goods for export:** To ensure regular supply of goods for export, the company established political power in Bengal and Carnatic in the 1760's and 1770's.
 2. **Huge competition in the market:** 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. In order to eliminate competition, the company took several steps.
 - Company established its **monopoly over the 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.

- It tried to establish a more **direct control over the weaver**. So it appointed a **paid servant** called **gomastha**. These servants have responsibility to supervise weavers, collect supplies and examine the quality of cloth.
- To prevent weavers from dealing with other buyers, the company began running **the system of advances**.

Changes in the lives of weavers:

- Advance loans and expanding demand for fine textiles made weavers eager to work.
- Many weavers who cultivated small plots of land, had to lease out the land and devote all their time to weaving. In fact, it required the labor of the entire family.
- Soon, however, in many weaving villages there were reports of clashes between weavers and gomasthas.
 - This is because the supply merchants belonged to the weavers' village whereas gomasthas were outsiders.
 - These merchants had a close relationship with the weavers because they looked after the needs and used to help weavers in times of crisis. But gomasthas had a long-term social link with the village. They acted arrogantly, marched into villages with sepoy and peons, and punished weavers for delays in supply.

Problems faced by the weavers:

- The weavers lost the space to bargain for prices and sell to different buyers.
- They used to receive miserably low prices from the company.
- Furthermore the loans they had accepted tied them to the Company.
- They had to face arrogant behavior of gomasthas.

Consequences:

- **Migration:** In many places in Carnatic and Bengal weaver deserted villages and migrated to other villages.
- **Revolt:** Elsewhere, weavers along with the village traders revolted, opposing the Company and its officials.
- **Refusal of Loans:** Overtime many weavers began refusing loans, closing down their workshops and taking to agricultural labor.

3 C. Manchester comes to India:

- In 1772, *Henry Patullo*, a company official, had ventured to say that **the demand for Indian textiles could never reduce, since no other nation produced goods of the same quality**.
- Yet by the beginning of the 19th century, the textile exports from India began to decline.
 - *For example:* Piece goods exports fell from 33% in 1811-12 to 3% in 1850-51.

Why did this happen?

- **Development of the cotton Industries in England:** As cotton industries developed in England, industrial groups began pressurizing the government to impose import duties on cotton textiles in order to protect Manchester goods from outside competition.
- **British manufactures in the Indian market:** Industrialists persuaded the East India Company to sell British cotton goods in the Indian market as well.
- **Increase in cotton (piece goods) imports:** Exports of British cotton goods increased dramatically in the early 19th century.
 - *For example:* Import of cotton piece goods increased from no imports to 31 percent by 1850 and over 50 % by 1870's.

Implications on weavers:

- **Decline of Export Market:** Export market of weavers collapsed and the local market shrank due to the import of Manchester goods.
- **Huge competition from machine-made goods:** Weavers could not easily compete with the imported cotton goods produced by machines as these goods were cheap.
- **Insufficient supply:** By the 1860's weavers had to face a new problem. They could not get sufficient supply of raw cotton of good quality.
- **Exorbitant price of raw cotton:** American civil war caused an increase in the exports of raw cotton from India to Britain. As a result, the price of raw cotton rose rapidly. So, weavers were forced to buy raw cotton at high prices.
- **Beginning of Factory production:** By the end of the 19th century, factories in India began production, flooding the market with machine-goods. Thus, it became difficult for weavers to survive.

4. 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.
- In 1855 and 1862, two **Jute Mills** also came up in **Bengal**.
- In north India, the **Elgin Mill** was started in **Kanpur** in the 1860's.
- A year later the first **cotton mill of Ahmedabad** was set up.
- By 1874, the **first spinning and weaving mill of Madras** began production.

Who set up the industries? Where did the capital come from? Who came to work in the mills?

4 A. The Early Entrepreneurs:

- Many business groups had been associated in trade with *China* since ancient times.
- As you know, the British in India began exporting opium to China in exchange for tea (to England). Many Indians became junior players in this trade, providing finance, procuring supplies, and shipping consignments.

- These Indians earned through trade and began developing their own enterprises in India.
 - *For example:* In Bengal, **Dwarkanath Tagore** initially did opium trade with China and later (in 1830's and 1840's) he set up six-joint-stock companies. Unfortunately, his enterprises sank along with those of others in the wider business crisis of 1840's.
- But later in the 19th century **many of the China traders became successful industrialists.**
 - *For Example:* In Bombay, Parsis like **Dinshaw Petit and Jamsetjee 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.
 - Another example is of **Seth Hukumchand**, a Marwari businessman who set up the first Indian Jute Mill in Calcutta in 1917. And the **father and grandfather of the famous industrialists G.D. Birla**. They also traded with China.
- Some other trade networks were with *Burma, the Middle East and East Africa*.
- There were some other **commercial groups** who were indirectly involved in external trade.
- They operated within India, carrying goods from one place to another, banking money, transferring funds between cities and financing traders.
- When opportunities of investment in industries opened up, many of them set up factories.

Colonial control over Indian trade:

- When the colonial Government attained power, it restricted Indian merchants from trading with Europe in manufactured goods. They were allowed to export raw materials and food grains only.
- They were also gradually edged out of the shipping business.
- Until WW1, European managing Agencies controlled a large sector of Indian Industries.
- The three biggest agencies were:-
 - Bird Heiglers and Company.
 - Andrew Yule.
 - Jardine Skinner and Company.
- These Agencies mobilized capital, set up joint-stock companies and managed them.
- These European Agencies used to take capital from Indian financiers and make all investment and business decisions by themselves.
- Furthermore, the European merchant-industrialists had their own chambers of commerce which Indian businessmen were not allowed to join.

4 B. Where did the workers come from?

- As factories expanded, the demand for workers also increased.
 - *For example:* From 5,84,000 workers in 1901 to 24,36,000 workers by 1946.
- Peasants and artisans migrated from rural to urban areas in search of jobs.
- In most industrial regions, workers came from the districts around.
 - *For example:* In Bombay 50% of workers came from the neighboring district of Ratnagiri.
- As the news of employment spread, workers traveled great distances.
 - *For example:* People migrated from United Provinces to textile mills of Bombay and Calcutta.

Difficulties in getting jobs:

1. Number of job seekers was more than the job available.
2. Entry into the mills was also restricted since industrialists usually employed jobbers to get new recruits.

5. The Peculiarities of Industrial Growth:

- European Managing Agencies were interested in certain kinds of products such as **indigo, tobacco, Iron, tea, cotton, Jute**.
- Most of these were products required primarily for export trade and not for sale in India.
- In **the late 19th century**, Indian businessmen began producing fine yarn instead of competing with Manchester goods.
- In **the 20th century**, a series of changes affected the pattern of Industrialization.
 - **Swadeshi Movement:** Nationalists mobilized people to boycott foreign cloth.
 - **Demand of Industrial groups:** Industrial groups pressurized the government to increase tariff protection and grant concession.
 - **Decline in the yarn production to China:** When Chinese and Japanese mills flooded the Chinese market, Indian industrialists began shifting from yarn to cloth production.
 - **Prolonged war:** During World War, Manchester imports into India declined as British mills were busy in making war goods. This paved the way for Indian mills to supply their goods in a vast home market. Moreover, Indian factories were called upon to supply war needs: jute bags, cloth, for army uniforms, tents and leather boots, horse and mule saddles and a host of other items.
- Thus, these changes helped Indians in many ways:-
 - New factories were set up and old ones ran multiple shifts.
 - Many new workers got employment and their working hours increased.
 - Over the war years industrial production boomed.

5 A. Small-scale Industries Predominate:

- The Large scale industries formed only a small segment of the economy and concentrated particularly in some areas.
 - *For example:* In 1911, 67% large scale industries were located in Bengal and Bombay alone.
- Over the rest of the country, small scale production continued to predominate. In fact, handicrafts production expanded in the twentieth century.

How did this happen?

- This was partly because of technological changes. Handicrafts people adopted new technology as it could help them improve production without excessively pushing up costs.
- By the second decade of the 20th century, weavers started using looms with a [fly shuttle](#).
 - This increased productivity per worker.
 - Also, speeded up production.
 - And reduced labor demand.
-

By 1941, over 35% of handlooms in India adapted fly shuttles.

- *For example:* In regions like Travancore, Madras, Mysore, Cochin, Bengal the proportion was 70 to 80%.
- Weavers produced coarse cloth as well as finer varieties.
 - The coarser cloth was bought by the poor and its demand fluctuated violently.
 - For instance, at the times of bad harvests and famines, the poor could not buy cloth.
 - Well-to-do people always demanded finer varieties. And their demand was more stable.
 - Famines did not affect the sale of Banarasi or Baluchari sarees.
- Weavers still had demand for those cloths which mills could not imitate.
 - Such as Saris with woven borders, or the famous lungis and handkerchiefs of Madras.
- Although, the Life of weavers was not so good. They lived hard lives and worked long hours. Very often, the entire family had to work at various stages of the production process.
- However, the life and labor of weavers was integral to the process of industrialization.

6. Market for Goods:

- In order to sell the products, there were some **market strategies** used by producers.
- One way of attracting new consumers was **advertisements**.
 1. **Labels:-** 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, it made them feel confident about buying the cloth.
 - Labels also carried images. Manufacturers used the images of Indian gods and goddesses regularly to convince consumers
 2. **Calendars:-** By the late nineteenth century, manufacturers were printing calendars to popularize their products. Since people who could not read, also used calendars.
- They used the images of kings, important personages, emperors and nawabs as well in advertisements and calendars.
- The **message** very often seemed to say: ***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.***
- Our Indian manufacturers used the same strategy and advertised the **nationalist message:** ***If you care for the nation then buy products that Indians produce.***
- Thus, Advertisements became a vehicle of the nationalist message of swadeshi.

Conclusion:

We can conclude that the age of industries brought major changes in technology, growth of industries, and the making of a new industrial labor force. However, hand technology and small-scale production remained an important part of the industrial landscape.

Category

1. Class 10th

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2024/12/26

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