

9

The Industrial Revolution and Social Change (1750-1900)

You may have seen and heard about factories established in your area. Your relatives and acquaintances may also be employed in these factories.

There are many small enterprises in Chhattisgarh that produce rice, kosa textiles and other products. Kurud, Mahasamund, Tilda-Newra, Nawapura, Rajim, Bhatapara, Dhamtari, etc are places with many rice mills. There are many big factories in the state as well – for example, the Bhilai Steel Plant (where iron and steel are produced), the aluminium plant in Korba and the cement factory in Baloda Bazar.

Many new factories have been set up in the last few decades. Villagers are leaving their farms to work in these factories to earn their living. We see many products manufactured by these factories in the markets.

We learnt about the different types of industries and the products they manufacture in class VII.

Tell the class about the factories or mills that you know about.

Industrialisation is the process of establishing factories, using industrial products in our daily life, and people leaving villages to work in factories in the cities. We can see this process happening in our state. It changes our lifestyle, our way of thinking and our surroundings in fundamental ways. But factory production was not always part of our lives. It started in Britain in the 18th century.

9.1 The Industrial Revolution

Britain went through many industrial and economic changes between 1780-1850. This period is known as the ‘first industrial revolution’. We call such change a revolution because Britain’s economic system and British society were transformed within a span of a few decades. The growth in human productivity was unparalleled. It changed every aspect of the people’s lives. It had many other far-reaching effects on Britain. Subsequently, Germany and the United States of America also went through this process of change. The impact of these changes was felt by the economies and societies of all the countries of the world.

The first phase of industrial development in Britain began with the invention of new machines and techniques. They made it possible to produce goods on a scale that was impossible in the cottage handicraft and handloom industries. Industrialisation made some people very wealthy. But many lakhs

of people had to work in harsh and unsafe conditions at very low wages during this initial phase. They included women and children. The pitiable working conditions caused wide discontent among the people and led to mass movements for social change. As a result, the British government had to pass laws to regulate the working conditions of industrial labour.

9.1.1 The Beginnings of Industrialisation

Industrial production began much before factories were established in England, Europe and India in the 17th and 18th centuries. In those days, the demand for textiles, iron implements and other goods was growing in the markets around the world. Merchants living in towns and cities wanted to meet this growing demand. They gave advances to peasants and artisans in villages to produce these goods. The artisans were contracted to produce the goods only for them and within a specified time. When the merchants wanted to increase production, they contracted more artisans. Historians call this phase of industrialisation as 'proto-industrialisation'.

In proto-industrialisation, the merchants lived in the city but the goods were produced in the village. This system of production became part of a world wide trading network. The merchants controlled the production and the artisans produced the goods in their homes, not in factories. Each merchant had scores of artisans working for them. In this way, a large number of people became involved in industrial production, international trade and monetary transactions.

In the class VII social science textbook you learned about a similar production system in Chhattisgarh. Try to recall what that system was and discuss its special features in class. Were these village artisans also linked to an extensive market system?

9.1.2 The Industrial Revolution in Britain

The first factories in England were established during 1730-40. But it was only towards the end of the 18th century that the number of factories began to increase rapidly. In factory production, the goods were produced under one roof in the cities instead of the homes of artisans in the villages. So there was mass production of goods. This required capital and labour. It also required demand for the goods in the market. Britain had rich merchants who provided the capital. There was good demand in the market. Labour to work in the factories was available from the villages and towns. New machines were also invented to produce more goods in less time.



Figure 9.1 The spinning jenny was a new invention to spin cotton faster. It had many spindles in a frame that could be worked by a single worker. What power is being used to run the machine?

Inventions and Factories

In the 18th century, around 26,000 inventions were patented to step up production and improve productivity. As labour productivity rose, the quality of the goods also improved. These changes occurred most rapidly in the textile industry. Richard Arkwright created the modern factory system for textile mills. Until then, cloth was woven on handlooms in the homes of hundreds of weavers in the villages.

But now all the processes were centralised under one roof of the factory, which was owned by a single manufacturer. The production process and the labour could thus be monitored. This ensured the quality of the textiles produced. All this was not possible when production was dispersed in individual homes in villages. Machines were also invented for every step of the production process.



Figure 9.2 In a factory, the production process, quality of the product and the workers can be monitored

How did ‘proto-industrialisation’ help in establishing the factory system?

Why was it necessary to set up factories to use the new machines?

Iron and Steel

Have you visited any steel mill in your state? How is the production done in the mill? Find out and discuss in class.

Why is good quality iron/steel required to establish a factory?

What are the differences between wood charcoal and coal?

There were many problems in making the machines needed in the factories. The machines had to produce goods on a mass scale so they had to be made of strong and durable steel. Fortunately, England had rich resources of coal and iron ore, which were needed to produce the steel to build machines. In addition, other metals used by industries, such as lead, copper and tin were also available in plenty.



Figure 9.3 A view of the Colebrookdale industrial area showing the blast furnaces, wood charcoal furnaces and a horse-drawn railway carriage. (A painting by F. Vivers dated 1758)

But until the 18th century, England did not produce good quality steel to build machines. In those days, wood charcoal was used to smelt the ore. But wood charcoal did not produce very high temperatures and was not easily available. So the iron produced in England was of poor quality.

A family of iron-mongers named Abraham Derby began conducting experiments in iron smelting in the early 18th

century. Over three generations they introduced some revolutionary changes in the process. The most important change was using coke instead of wood charcoal in the blast furnace. The iron smelted from such furnaces was of better quality. It could be used to produce long castings that made it easier to manufacture many kinds of iron goods cheaply.

Since this steel was stronger and more durable, it could also be used to build machines. In addition, it was a better alternative than wood to manufacture rails and other products - wood burns and wears out faster. The physical and chemical properties of iron could also be controlled.

In this way, the industrial revolution that began with the textile industry, now focused on making machines with iron and steel. Larger quantities of iron ore and coal were mined and new factories sprang up close to the mines. But it took two other important developments to stabilise the Industrial Revolution.

i. The Sources of Energy

In the 17th century, human or animal power was used to run machines. The energy of rapidly flowing water in rivers was also converted by water wheels. But these sources of energy were not sufficient to run heavy machines throughout the year. The use of steam power was a revolutionary development. People did know about steam power but it was James Watt (born 1736, died 1819) who invented a steam engine that could be used as a prime mover (primary source of power) to run the machines in a factory. By the end of the 18th century, Watt's steam engine replaced human/animal power and the energy of flowing water (water wheels).

What energy is used to power factories today? How is this energy produced?

Why is industrialisation not possible with animal power or the energy of flowing water?

ii. Transport

Industrialisation and the expansion of trade required different modes of transport to carry the large quantities of goods produced from one place to another. Initially, a network of canals was built to carry goods cheaply by boats and ships. The next development was laying railway tracks on which carriages could carry goods. Initially, the rails were made of wood and the carriages were pulled by horses.

Two developments helped the railway network to spread rapidly. The first was the use of the steam locomotive instead of horses. George Stephenson built the first steam locomotive in 1814. Second was the use of iron rails to replace wooden rails. Rail transport now became available throughout the year. It was also cheap and fast and could carry both goods and passengers. This helped usher in the second phase of the Industrial Revolution.



Figure 9.4 A view of a railway factory, The Illustrated London News, 1849

What is the difference between setting up a factory and laying a railway track?

The number of factories multiplied with the use of steam engines. By the beginning of the 19th century, factories became a part of England's landscape. The huge factories and the power of the new technology were truly awe-inspiring. But, in spite of the spread of factories and machines, the total production of goods by artisans was still much larger than factory production until the middle of the 19th century. But factory production slowly began playing a decisive role in the economic system as artisan production continued to decline.

9.1.3 Why did the Industrial Revolution happen only in Britain? Why in the 18th century?

Britain was the first country to industrialise. What were the conditions in the country that made modern industrial production possible and why during this period? This question has been widely debated. Historians believe that such far-reaching changes cannot happen if the social, economic and political conditions aren't favourable. Let us examine this mix of enabling conditions that made it possible for Britain to industrialise in the 18th century.

1. The Political Situation

Britain was politically stable during the 17th century, with one king ruling over England, Wales and Scotland, its three constituents. This meant there was a single law, single currency and single market system for the entire country. The unification of systems benefited trade. The government removed or reduced many obstacles to the growth of trade and industry. But it did not invest in industry. What it did was levy additional duties on goods from other countries. This made imported goods costlier than British goods. So British industrial and agricultural goods were protected against competition and people preferred buying them because they were cheaper.

Such protectionist duties continued up to the 1840s. After 1846, the government began reducing these duties, levying the same duty on both imported and exported goods. This is known as a free trade policy. Under such a policy, the government does not interfere too much in the economic system and private capitalists are given greater freedom. Britain could introduce such a policy because industrialisation had made British goods so cheap that the country no longer feared competition from other nations.

India also imposed high protectionist duties on foreign goods from 1947 onwards. But after 1990, the protectionist duties were reduced to a minimum. Ask your teacher about this change in policy and why it happened. Discuss in class.

2. The Domestic Market

In industrialisation, the mass production of goods requires a big market to sell these goods. Let us see how Britain developed this market.

Britain was politically unified and had a centralised administration from the 16th century. So it could establish a unified economic policy for the whole country. The local feudal lords and officials could not interfere in the market economy like they used to do earlier – for example, they could not levy a tax on goods passing through their territory. The whole country had a single tax, weights and measures and currency system. This made it easy to trade across the country. Hence, internal trade expanded rapidly.

By the end of the 17th century, Britain was using currency widely for daily transactions. Earlier, most transactions were done by exchanging food-grain or goods (barter system). But as trade expanded,

wages, land rents, taxes etc were paid in cash. Another important reason for this shift was the commercialisation of agriculture. Farming was no longer done just to meet household needs but to sell farm produce in the market for a profit. Hence, cash transactions became common in rural areas as well. As a result people could exercise greater choice in buying goods with their money. So the demand for goods grew and the markets expanded.

If different provinces of a country have different weights and measures, what problems could it cause for trade?

If each province has its own currency, what difficulties would traders face?

Have you come across any example of barter of goods in your city or village? Tell the class about these examples.

How does currency help in expanding trade?

3. Commercialisation of Agriculture and Agricultural Revolution

Trade in food-grain, meat and cotton began expanding in Britain from the 15th century. Many tenant farmers began producing for the market. The profits of these farmers grew in the 17th century as prices rose. The landowners now began showing an interest in agriculture. They evicted their tenants, hired labour and began managing their farms themselves. They bought more land from neighbouring farmers and encroached on the village commons (pastures) to create huge landholdings. They also introduced new farming techniques and began commercial sheep rearing to maximise their profits.

This huge economic change happened in Britain during the 18th century. It is called the Agricultural Revolution. It had one distressing outcome. The peasants who were tenants of the landowners and the shepherds who grazed their sheep in the village commons lost their livelihoods. They were forced to look for other livelihood options.

The agricultural revolution benefited industrialisation in two ways. First was the commercialisation of agriculture, which increased the production of food-grain and meat and raw materials like wool. The second was the exodus of peasants and shepherds from the villages to the factories in the cities as industrial labour.

How much of their agricultural produce do farmers in your area sell in the market and how much do they retain for household consumption? Discuss in class.

Who reaped the benefits of increased agricultural production during the agricultural revolution in Britain?

4. International Trade and Colonisation

By the end of the 17th century, British merchants were trading in China, India, Africa, America and other countries. They were also politically active in these countries. As a result, Britain accumulated considerable wealth and capital. The merchants got cheap cotton, food-grain and other produce from the American colonies. In exchange, the colonies purchased the industrial goods manufactured in Britain. The British cities like London became international trade hubs. Many financial institutions such as banks were established in these hubs. They provided finance for new economic projects. The spread of such facilities helped Britain to establish more factories.

How does a bank provide capital for setting up a factory? Where does it get this money?

What kinds of factories were set up in Britain that got their raw materials from the colonies?

Industrialisation requires adequate capital to set up factories and sell the output for bigger profits. This money could belong to an individual or it could be the money of many people in financial institutions like banks.

The second requirement for industrialisation is a market for the goods produced. People should be willing to buy these goods. They should also be easily available to the buyers at the minimum cost. So there should be market demand for the goods and buyers with cash to pay. In addition, the government should not levy heavy taxes on the goods and there should be transport facilities to reach the goods to consumers in distant markets as cheaply as possible.

The third requirement for industrialisation is the availability of workers who are willing to work at low wages because they have no other livelihood options other than factory labour. The fourth requirement is a regular supply of cheap raw materials.

Industrialisation in Britain made it possible for the country to expand its international trade and establish its colonies.

Wealthy landowners and wealthy merchants – which of these two would be willing to invest capital in industry? Why?

The village peasant and the daily labourer in the city – which of these two would buy all the goods they need from the market?

From what you have read till now, which raw materials do you think Britain needed for its industrialisation? How were the raw materials supplied?

9.1.4 The Working Class and Industrialisation

As more factories were established and more mines were opened, there was an exodus of people from the villages to the cities in search of employment. The chances of getting jobs were higher if they had contacts – friends or relatives – working in a factory. But those who did not have such contacts had to wait for weeks to get work. There were many such people looking for work. They slept under bridges or in night shelters. The police also put up temporary shelters for them. Even those who got

work lived in filthy tenements without any civic facilities. Sickness and epidemics were common. Because of sickness and poverty, the average lifespan of workers was very low.

Production in many industries was seasonal. Hence, workers were laid off for long periods. Some of them would return to their villages in summer when farm work was available. But most of them remained in the cities, living on the streets and looking for whatever small jobs were available.



Figure 9.5 'Houseless and hungry' – a painting by Samuel Luke Fildes, 1874. Homeless people standing in line, heads bowed and sad, to stay overnight in a workhouse in London. It was considered a disgrace to stay in a workhouse

Towards the beginning of the 19th century, wages increased but they were still too low to meet the rising cost of living. The average daily wages of the workers depended on the prevailing wage rate as well as the period of employment. By the middle of the 19th century, around 10% of the urban population lived in dire poverty even in the best of times. In times of economic depression, the unemployment rate would climb to 35% - and even 75% in some regions. Food riots often broke out during these times.

The workers resented the new technology and mechanisation that reduced their employment opportunities. Very often, they tried to destroy the machines, blaming them for displacing workers from their jobs. First, they targeted machines in factories but soon they began wrecking even the newly developed agricultural machinery like threshers.

9.1.5 Women and Child Labourers

The industrial revolution changed the kind of work that women and children did. Earlier, rural children used to work at home or in the fields under the watchful eye of their parents or relatives. The kind of work they did depended on the seasons. The women worked in the fields, grazed cattle, collected firewood or spun yarn on spinning wheels at home.

During the industrial revolution, women and children began working in factories. The work was quite different from what they did earlier. They now had to do repetitive tasks for long hours under harsh conditions. They were strictly supervised and lived in constant fear of punishment.

Women and children had to work to supplement their family income because the men did not earn enough to meet the daily needs. With mechanization, there was less use for skilled labour. The industrialists preferred employing women and children rather than men for the less skilled work.

Large numbers of women and children were employed in the cotton textile mills of Lancashire and Yorkshire. They were also employed in the silk weaving and lace making industries as well as the metal industries of Birmingham.

The agile fingers and shorter height of children were particularly suited to operate the cotton spinning machines. Also, the textile machinery was closely packed in the mills so it was easier for small-sized children to operate them. That is why mills preferred to employ children. They had to work long hours and got little chance to breathe fresh air. They worked even on Sundays, when they were made to clean the machines. Accidents often occurred – their hair would get caught in the machines or their hands would be mangled. The long hours tired them so much that they often fell asleep on the job, meeting their death by getting entangled in the machines.

The coal mines were also dangerous places to work in and workers suffered many injuries. The tunnel roof often caved in and gas explosions were common. The mine owners used to send children to inspect the deep working face of the coal seams in the mine, which were too narrow for adults. They were even made to carry heavy loads of coal on their backs and haul coal-laden wagons.



Figure 9.6 Children working in a mine

The factory owners were keen to employ children because they grew up to become skilled workers. Most of the factories employed children aged 10 to 14 years. Work made women financially independent and boosted their self-respect. But these gains were offset by the appalling conditions in which they worked. Pregnant women faced serious problems and often delivered still born babies. Since they did not get the time to take care of their infant babies, infant and child mortality was unusually high among the workers. Women were forced to live in filthy and appalling hovels just to be near their factories.

What kind of work do women do in factories today? Is it legal for children aged below 14 years to work?

How many hours do workers work in factories every day these days?

Women worked 12 to 16 hours every day during industrial revolution and became financially independent.

What impact do you think this had on their status in their families?

9.1.6 Working Class Movement

Industrial workers used to give vent to their anger at their terrible working conditions in spontaneous protests that were often violent. But when they saw no improvement in their working conditions, they began to adopt more organised ways of protest. The workers of different industries formed their organised groups to collectively bargain with the factory owners. These organisations developed into labour unions or associations. The workers also set up mutual aid societies to help sick and unemployed workers. They contributed small donations to run these cooperative societies.

The workers were mostly inspired by the republican ideas of the French Revolution and the Jacobins. They were also influenced by socialist ideology. They began to demand democratic rights and economic and political equality for all.

A movement called Luddism developed between 1811-17. Named after an imaginary or real ‘general’ Ned Ludd, it was essentially a protest against mechanisation, which was robbing people of their livelihoods. Today, ‘Luddite’ is a generic term for people who oppose technology and machines. But the Luddites had a much broader agenda that included a minimum wage, regulation of women and child labour, jobs for workers displaced by newly invented machines, and the right to form trade unions and associations to fight for their demands. The parliament responded by trying to suppress the workers. It passed a new law that prohibited people from protesting against state policies.

But the flow of democratic ideas could not be stemmed and this oppressive law was withdrawn in 1824-25. From 1832, right to vote for parliament was gradually thrown open to other social classes. After 1819, laws were formulated to regulate child labour and limit working hours.

Was industrialisation a curse for the workers or a way of escaping from the clutches of feudal landowners? Discuss in class.

9.2 The Industrialisation of Germany

Britain’s industrial revolution changed its economy in significant ways. It was Europe’s first industrial revolution. It helped the nation to establish its political and economic might. Other European countries sought to follow its example and began industrialising their economies. However, the political situation in these countries in 1830 did not encourage industrialisation. For example, Germany and Italy were divided into a number of smaller states.

But by 1871, these countries unified into constitutional monarchies, creating more conducive conditions for industrialisation. France had also become a democratic republic.

Two obstacles still stood in the way of speeding up their industrialisation. The first problem was that it was difficult for them to compete with Britain, which had industrialised strongly and captured the international market for industrial goods. In fact, it was almost impossible to break Britain's monopoly in the textile industry. The second problem was that these countries did not have a strong capitalist class with capital and experience.

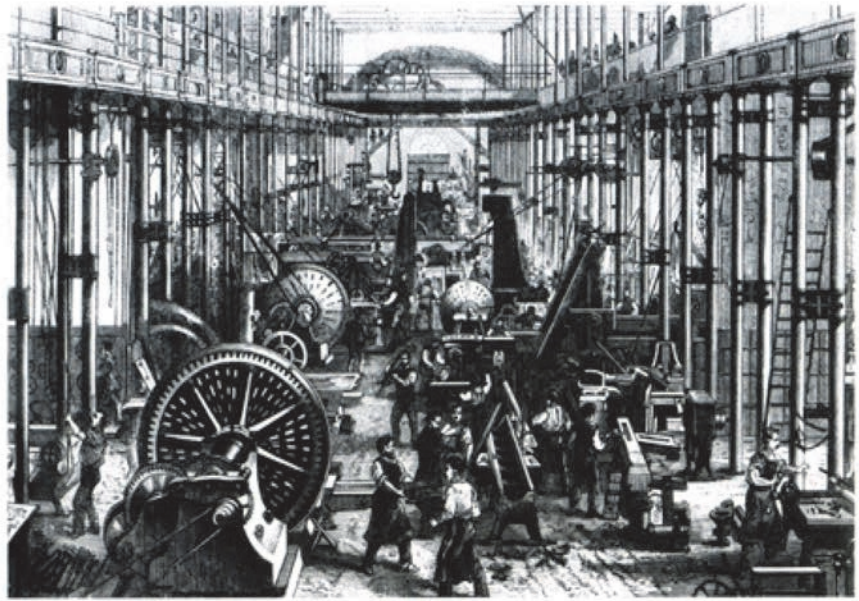


Figure 9.7 A heavy machinery factory

Let us see how Germany addressed these two problems. At the time of the French Revolution, the country was divided into more than 300 small states. After the defeat of Napoleon in 1815, when European countries were reorganised, Germany was left with about 39 states. Soon these 39 German-speaking states formed a loose federation. The most powerful among them was Prussia. It tried to forge the federation into a single unit under its political umbrella.

One of the steps Prussia took was to form an economic union in 1834. It reduced tariff barriers to trade and reformed its currency system. It also tried to end the control of the feudal landowners over the economy. It abolished the feudal practice of serfdom and carried out land reforms. The tenant peasants were freed from the clutches of the feudal landowners.

The unification of Germany in 1871 led to the setting up of large factories and the opening of new mines. Large numbers of unemployed people found work in these new enterprises. The feudal landlords also became enterprising farmers, adopting modern agricultural practices. As a result, agricultural production rose and they sold their produce in the national and international markets.

As pointed out earlier, Germany had to compete with Britain to industrialise and become powerful. The German rulers focused on those industries that Britain had not developed. In those days, there were three new areas of industrial development. These were the chemical industry, the heavy machinery industry and the electricity industry.

The chemical industry produced synthetic fertilisers, synthetic dyes, pharmaceuticals, photographic chemicals, plastics, synthetic fibres and new types of explosives. The heavy machinery industry manufactured industrial machines. The electricity industry was developing rapidly with the invention of new equipment powered by electricity. Among the foremost inventors of the time was the American inventor Thomas Alva Edison. In addition, around 1850, the railways and steamships also emerged as important areas for capital investment.

The German industrialists chose to develop these new areas to compete with Britain. But unlike textiles and cotton mills, the new industries required heavy capital investment. Germany did not have



Figure 9.8 Women workers in a factory powered by electricity

such wealthy capitalists. This is where the German government stepped in with large capital investments. It created a vast railway network in the country and invested in opening mines.

The next initiative was to open schools, universities and technical institutions. The research conducted in the universities was linked to the requirements of industry. The technical institutions were also linked with industry to ensure that their students acquired knowledge and skills required by factories.

The German state established a tax regime in which the products of other countries imported into Germany faced high protectionist tariffs while the tariff on goods exported from Germany were low. These policies protected German industry from international competition. The growing power of its unified economy led Germany to establish colonies in Africa and Asia.

In this way, the German state played an important role in the country's industrialisation. This was quite different from the role played by the British state in Britain's industrialisation.

What were the differences in the role of the state in the industrialisation of Germany and Britain?

Why do you think the feudal landowners and the emperor supported and encouraged industrialisation?

The German capitalists introduced many institutional innovations to face international competition and make up for their lack of capital. The large banks played a central role. Even more important was the formation of cartels - unified trade associations. Each cartel included all the companies in a particular industrial sector. Their members had to follow certain mutually beneficial rules. By joining hands instead of competing with each other, the companies could keep the prices of their products high.

By 1900, Germany had captured 90% of the market for synthetic dyes. The synthetic chemicals industry helped establish the pharmaceutical, photographic chemicals, plastics, synthetic fibre and explosives industries. Germany's production of chemicals was 60% higher than Britain's. The German electricity and steel industries also saw rapid progress during this period.



Figure 9.9 Emperor: I, too, am with you.

Socialist worker: Okay brother. But first remove your crown and then join us.

(From an 1890 edition of the satirical magazine Punch, published from London)

9.2.1 State Socialism in Germany

Labour in Britain had to work in adverse conditions during the industrialisation of the country. Germany faced a similar problem while industrialising. Labour movements sprouted here as well. The workers adopted socialist ideologies and sought to launch a social revolution.

The German state took steps to control the situation. First, it instituted compulsory – and free - primary education to ensure all children were educated. Royal technical education institutions were also set up where free education was given for those who wanted to become skilled workers.

The most important step was bringing in labour welfare schemes such as old-age pensions, and medical and accident insurance. These welfare facilities were run jointly by the state and the factory owners. They ensured that the workers could live with respect during their service, after retirement, or when they were sick or injured.

These initiatives helped the state to control the labour movements. Since it the state itself implemented the socialist demands, this policy was called ‘State Socialism’. (see figure 9.9)

9.3 The Social Impact of the Industrial Revolution

1. Dependence on industry for livelihoods: The industrial revolution led to many important social changes. One far-reaching change was that people moved out of agriculture to work in factories in the cities. The peasants became industrial workers. They totally depended on industry for their livelihood. The population of industrial towns grew rapidly. In Britain and Germany, only 1-2% of the population are cultivators today. The rest work in industry or in the service sector. These countries no longer have any small peasants.

2. The birth of industrial capitalism: Industrialisation marked the birth of industrial capitalism. Economic power was concentrated in the hands of a few people. Society was divided into two classes. One class was the workers. Their only possession was their labour, which they sold to the factory owners to earn a livelihood. They got meagre wages in return. The second class was the capitalists and landowners. They took risks to invest their money to set up factories. But they also claimed all the profits. Their capital grew over the years and the workers became totally dependent on them.

3. The market-oriented economy: One fundamental problem in a market-oriented economy is that the factory owner does not know whether his products will sell in the market. The market often becomes dull for various reasons and the products don't sell. It could be because more goods are produced and supplied to the market than it needs, or because the people don't have enough money to buy the goods. When this happens, the factory owner suffers a loss and is forced to stop production and lay off workers. This creates the problem of unemployment.

4. A constant effort to reduce input costs: The capitalists constantly try to reduce the cost of production so that they can sell at a lower price than their competitors. There are many ways of reducing the cost of production. For example, new kinds of machines or production systems can be introduced that produce more goods with fewer workers. Or cheaper raw materials can be used or new sources of raw materials can be explored. Or else, a new product can be introduced to substitute for a conventional product. This is the defining feature modern industrial production - technology and production processes are constantly changing. Many workers are laid off because of technological changes and new machines. These unemployed workers have to look for other jobs.

9.4 De-industrialisation and the Beginning of Modern Industrialisation in India

Between 1500 and 1750, that is before Britain industrialised, India had a flourishing textile industry. Indian weavers wove high quality fabrics that were in high demand in the international market. European traders first ventured into India to profit from this trade in Indian textiles. Seeing the growing demand, Indian artisans and merchants stepped up their production. The East India Company established its rule in India to corner this trade and establish its monopoly. Let's examine what impact this new regime had on Indian industry.

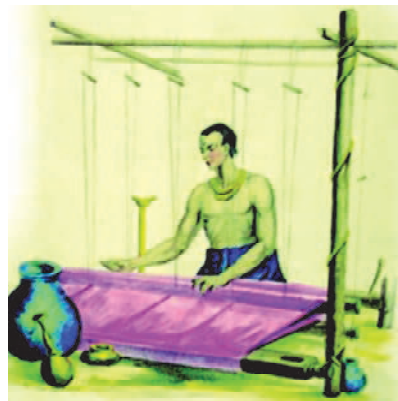


Figure 9.10 A weaver working on a handloom in Bengal

9.4.1 What happened to the weavers?

The demand for Indian textiles did not decrease after the East India Company established its rule in 1760. At that time, the British textile industry was yet to develop. Also, there was heavy demand for fine Indian textiles in the European markets. That is why the company was keen to expand its exports of Indian textiles. In 1772, an officer of the East India Company Henry Pathula said that the demand for Indian textiles would never decrease because no other country in the world made such fine textiles. But exports of Indian textiles began to fall steeply from the beginning of the 19th century. In 1811-12, cotton textiles made up 33% of the total textiles exported from India. In 1850-51, the figure was only 3%. How did this happen and what impact did it have?

When textile mills were established in England, the British industrialists complained about textile imports from other countries. They put pressure on their government to levy an import duty on imported textiles so that the textiles produced in Manchester could sell in the domestic market without facing competition. They also put pressure on the East India Company to sell English textiles in the Indian market. As a result, exports of British textiles rose dramatically towards the beginning of the 19th century.

This created two problems for Indian weavers. Their export market shrank and so did their Indian market. The textiles produced in Manchester flooded the Indian market. The local weavers could not compete with these cheap, mass produced cotton textiles. By 1850, stories of the sad plight of the helpless weavers could be heard across all the textile producing regions of India.

In the decade after 1860 a new problem arose – Indian weavers could not get cotton to weave because all the cotton from India was exported to the Manchester textile mills. But the death knell for the Indian weavers and artisans was sounded when Indian mills and factories began producing textiles and other goods around this time. How long could the local weaving industry hope to survive after the entry of locally manufactured textiles in the domestic market?

What do you think the weavers did to earn their livelihood after their textiles stopped selling in the market?

9.4.2 The Growth of Factories in India

The first textile mill in India was established in Bombay (now called Mumbai) in 1854 and it began production two years later. By 1862, Bombay had four mills with 94,000 spindles and 2,150 looms. At the same time, jute mills were opening in Bengal. The first jute mill was established in 1855 and a



Figure 9.11 Women workers engaged in spinning in a mill in Ahmedabad



Figure 9.12 A jobber

second followed seven years later in 1862. In North India, the Elgin mill was established in Kanpur in the decade of 1860. Within a year of its opening, Ahmedabad (now known as Amdavad) got its first textile mill. The first spinning and weaving mill in Madras went into production in 1874. In Chhattisgarh, the C.P. textile mill was established in Rajnandgaon in 1894. It was renamed the B.N.C. mill in 1906.

Let's now see who were establishing the textile mills in India. Where did these people get the capital to invest? Where did the mill workers come from?

The first entrepreneurs: Some Indian merchants wanted to establish factories in the country after accumulating wealth from their trading activities. In Bombay, Parsi merchants like Dinshaw Petit and Jamshedji Nusserwanji Tata (who went on to lay the foundation of a vast industrial empire in India) earned handsome profits by exporting opium to China and raw Indian cotton to England. Seth Hukumchand, a Marwari merchant who set up India's first indigenous jute mill in 1917, was also involved in the China trade. So were the father and grandfather of G.D. Birla. Apart from them, there were some commercial groups that were not directly involved in foreign trade. They were trading and moneylending in the domestic market. When opportunities to invest in industry opened up in India, many of them began establishing factories.

Where did the workers come from?: Most of the workers in the industrial belts came from the adjoining districts. The unemployed peasants and artisans in the villages migrated to these industrial centres in search of work. In 1911, 50% of the workers in the cotton textile mills of Bombay came from the nearby Ratnagiri district. The workers in the Kanpur mills mostly came from villages around the city. They would return to their villages during the festival season or to harvest the crops.

As people came to know that new kinds of work was available in the cities, they started coming from more distant regions. For example, people from Uttar Pradesh began looking for employment in the textile mills of Bombay and the jute mills of Calcutta (now known as Kolkata).

Finding employment was always difficult. Many mills were being opened and the demand for workers kept growing. But the number of people seeking employment always outnumbered the number of jobs available.

The industrialists appointed jobbers (agents) to hire workers. They were mostly experienced and trusted workers. They would bring people from their villages, promise them jobs in the city, help them settle in the city and give them loans when they faced financial problems. The jobbers soon became powerful people. They later began demanding money or gifts in exchange for jobs and began controlling the lives of the workers.

The policies of the British government: Indian industrialists demanded an import tax on goods imported into the country to protect the output of the Indian mills. They also demanded priority for Indian products in all government purchases. The British government was not in favour of taxing imported goods because such a tax would harm British exports. But rising government expenditure made it necessary to levy new taxes. However, the government showed no favour to the local industrialists and fixed the same levy for both imported and locally produced goods. Thus, Indian industry got no protection. The government also refused to purchase Indian products for its requirements, citing their inferior quality. Even writing paper and ink were imported from England. This situation continued till 1914, when the World War made it difficult for British goods to reach India. Indian industry began to expand and grow freely only after this.

The British also made laws to protect women and child labour. Employing children aged below nine years was prohibited and the working hours of child workers was limited to seven hours per day. For women, the limit was nine hours per day. In 1911, a law was passed restricting the work hours for men to 12 hours per day.

EXERCISES

1. Choose the correct alternative:
 - a) Where did the first industrial revolution occur?
 - i) France ii) Germany iii) Spain iv) England
 - b) Germany's industrial revolution was based on which industries?
 - i) Textiles ii) Computers iii) Minerals iv) Chemicals and Electricity
2. What were the similarities and difference between proto-industrialisation and factory production?
3. Who were the people who invested capital for Britain's industrialisation?
4. Who invested capital for Germany's industrialisation?
5. What is the difference in the role the state played in the industrialisation of England, Germany and India?
6. How did the iron and steel industry contribute to the industrial revolution?
7. What impact did industrial development have on society?
8. What were the obstacles in the way of Germany's industrial revolution in the 18th century? How were these obstacles overcome?
9. How did the colonies contribute to industrialisation? What were the obstacles to industrialisation of the colonies?

10. If the goods produced in a factory do not sell in the market, what effect does it have on capitalists and workers?
11. How does technological change affect the workers and how do the products of new technologies affect the consumers? Discuss with an example.
12. How did Britain's industrial revolution affect the weavers in India?
13. Who were the first Indian industrialists? How did they get the capital to invest in new factories?
14. What challenges did the first Indian industrialists have to face?
15. What were the differences and similarities in the laws enacted in Britain, Germany and India to protect the interests of the workers?

PROJECT WORK

1. 'Competition among companies, technological progress and workers' – prepare a play on what has been said about these processes in this chapter and perform it in class.
2. What are the laws enacted in our state to protect the interests of workers? Find out and prepare an exhibition of your findings.
3. How have the energy sources for industry changed from the 17th century to the present? Find out and write an essay on your findings.

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