

SECTION

6

REVOLUTIONS THAT
CHANGED THE
WORLD



Ethics and Human Development

Revolutions that Changed the World

INTRODUCTION

The Industrial Revolution was a period of major changes in how things were made. It began in Europe in the late 1700s and continued into the 1800s. Before this time, most items were crafted by hand or using basic tools. However, during the Industrial Revolution, people began using new machines and methods to produce goods at a faster pace and in greater quantities. Some of the new inventions included steam engines, spinning jennies, and power looms. It's important to know this history to understand how Africa has developed.

At the end of the section, you will be able to

Analyse the origin, the characteristics and impact of the Industrial Revolution on the African continent.

Key ideas:

- The Industrial Revolution began in Britain during the 18th century and gradually spread to other parts of the world
- It spread to other European countries.
- It changed the world economy from hand-made to machine-made
- It brought about significant changes in energy use, socio-economics and culture

ORIGIN, THE CHARACTERISTICS AND IMPACT OF THE INDUSTRIAL REVOLUTION ON THE AFRICAN CONTINENT

The Industrial Revolution was a time when people started using machines to make things instead of making them by hand. It began about 250 years ago in Britain and changed how people lived and worked.

This era saw the arrival of new manufacturing processes, the expansion of industries, and significant changes in the way people lived and worked. The impact of the

Industrial Revolution on the African continent was profound, leading to changes in trade, economic systems, and social structures.



Fig. 6.1 Steam-powered machine at work during the Industrial Revolution period.

The origin and spread

During the 18th century, the Industrial Revolution originated in Britain due to advancements in agriculture, technology, and commerce. This period saw a significant shift from handmade to machine-made products, leading to the mechanisation of many industries such as textiles, iron production, and coal mining. As these innovations proved successful, the Industrial Revolution gradually spread to other parts of the world, shaping economies and societies on a global scale.

Case study Reasons Why the Industrial Revolution Began in Britain:

1. Natural Resources:

Britain had large amounts of coal and iron ore, which were crucial for powering new machines and building factories.

2. Agricultural Advances:

Before the Industrial Revolution, Britain experienced an Agricultural Revolution, where new farming techniques increased food production. This meant that fewer people were needed to work on farms, and more could work in industries.

3. Economic Conditions:

Britain had a strong economy with a banking system that could lend money to entrepreneurs (people who start businesses) to build factories and buy machines.

4. Political Stability:

Unlike some other countries, Britain was politically stable. This stability allowed businesses to invest and grow without the fear of their investments being destroyed by war or political upheaval.

5. Colonial Empire:

Britain had colonies around the world which provided raw materials (like cotton) and also served as markets to sell goods. This helped British businesses grow.

6. Innovative Thinking:

Britain had many inventors and scientists who created new machines and technologies, like the steam engine, which made production faster and cheaper.

7. Labour Supply:

With the Agricultural Revolution, many people moved to cities in search of work. This available labour force was critical for manning the new factories.

8. Transportation Network:

Britain developed a strong transportation network, including roads, canals, and later, railways. This made it easier to move raw materials to factories and finished goods to markets.

9. Capitalism and Entrepreneurship:

The culture in Britain encouraged business and trade. There was a spirit of entrepreneurship where people were willing to take risks to start new businesses and industries.

Summary:

The Industrial Revolution began in Britain because it had the right combination of natural resources, innovative thinkers, economic conditions, political stability, a strong transportation network, and a culture that encouraged entrepreneurship. All these factors came together to create the perfect environment for industrialization to start and thrive.

Dear reader, we can also talk about how the discovery of electricity and the development of electrical technology brought about significant changes in energy use, socio-economics, and culture. This can be proved with simple examples, such as how electricity changed the way we light our homes, power our machines, and communicate with each other by charging our phones with electricity, using electrical irons instead of a box iron to iron our clothes, we now use an electrical stove instead of charcoal and coal pot. We also use a refrigerator instead of a cooler pot.

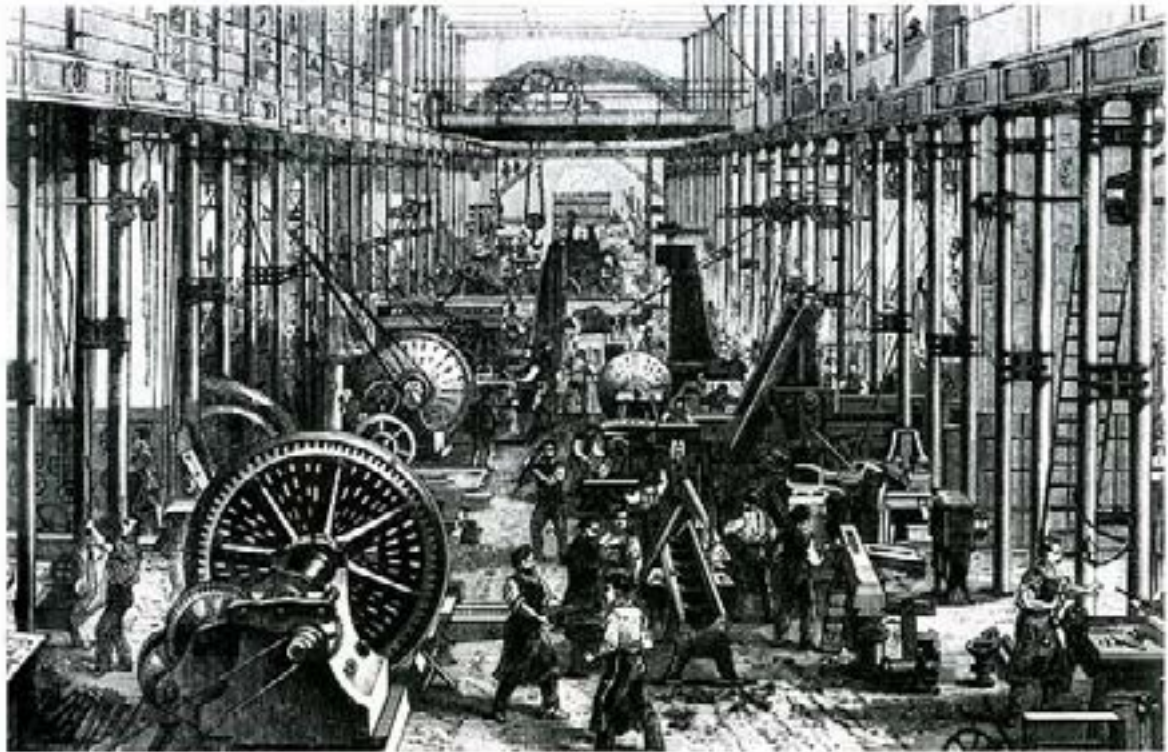


Fig. 6.2. Steam engine machine.

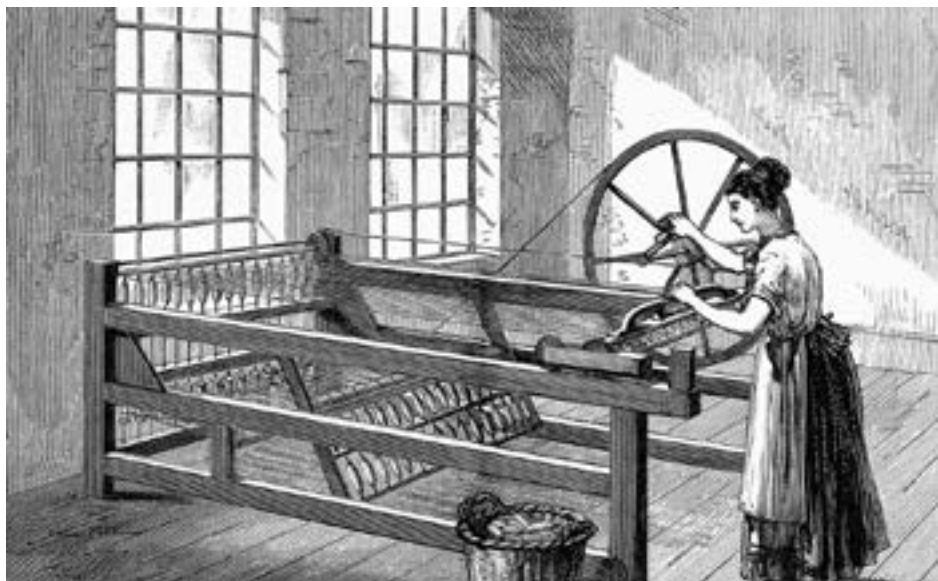


Fig. 6.3. Human-powered machine.



Fig. 6.4. Causes and effects of the Industrial Revolution

Technological Transformations

Dear Reader, are you aware that throughout history, numerous technological innovations have transformed the way we produce and utilise energy sources? Yes, from the widespread adoption of coal as a primary energy source to the development of steam engines, electricity, petroleum, and internal combustion engines, these advancements have revolutionised the way we generate and harness energy, and how each innovation has played a key role in shaping the world's energy landscape and had a profound impact on our daily lives.

Again, with the advent of factories, the landscape of the factory system underwent substantial technological transformations. The establishment of factories facilitated the division of labour and specialisation, empowering workers to concentrate on specific tasks within the production process. This enhanced level of specialisation led to increased efficiency and productivity, ultimately ushering in an era of mass production of goods on a scale previously unimaginable.

In the early days of, transportation and communication, technological advancements such as steam engines, steamships, automobiles, telegraphs, and radios played an essential role in transforming connectivity. Steam engines revolutionised long-distance travel and the transportation of goods, making it faster and more efficient. Similarly, steamships allowed for easier and quicker sea travel, opening new opportunities for trade and exploration.



Fig. 6.5. Weaving loom



Fig. 6.6. Weaving Machine

Activity 6.1

Write any three ways, by which the Industrial Revolution has brought about technological transformation in the African continent.

Activity 6.2

Write in section B of the table below the name of the machine manufactured to replace the hand-made activities in section A

Hand-made Activities (Section A)	Name of the machine (Section B)
1. Grinding of ingredients such as tomatoes, onion, ginger and so on with stones and earthenware bowls.	
2. Weeding with cutlasses and hoes.	
3. Weaving of Kente cloths.	

The Impact of the Industrial Revolution on Society

Economic Growth and Productivity

The Industrial Revolution significantly increased productivity and economic growth in several ways. First, machines replaced manual labour, allowing for faster and more efficient production processes. The factories introduced assembly lines, which modernised production and increased the quantity of goods produced.

For instance, technological progresses, such as the steam engine and power loom, improved the speed and quality of manufacturing and workers specialized in specific tasks, improving efficiency and skill in those areas.

Finally dear reader, improved transportation, like railways and steamships, facilitated the faster movement of raw materials and finished goods, reducing costs and increasing production speed. The mass production techniques reduced the cost per unit, making goods cheaper and more accessible. this in the end promoted economic growth.

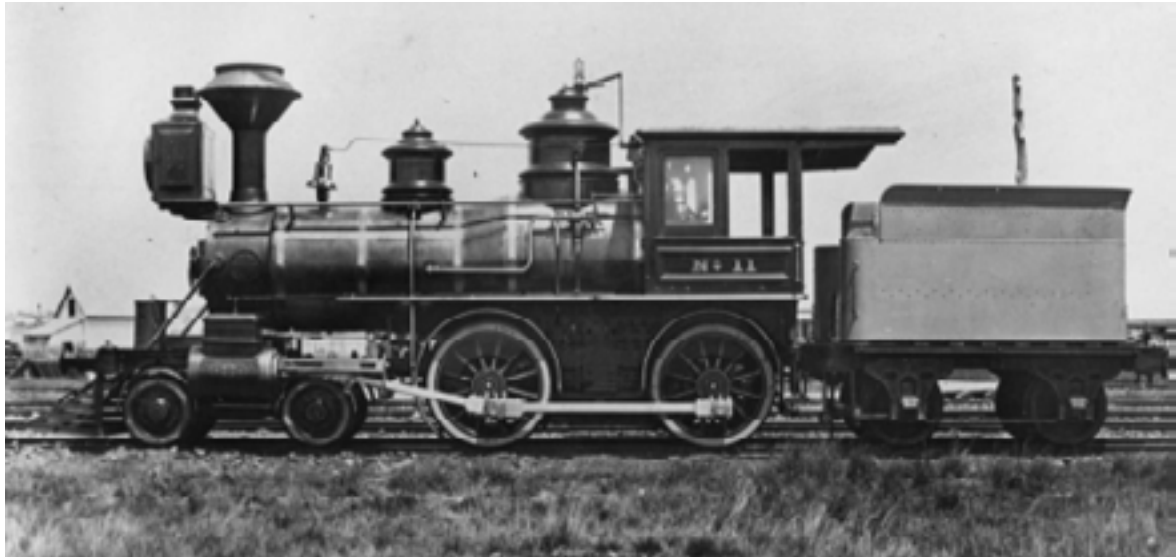


Fig. 6.7. A picture a steam engine.

Urbanisation

Many people moved from rural areas to cities to work in factories, leading to rapid urbanisation. Cities grew in size and number, with more people living in urban areas than ever before. As people migrated from rural areas to cities in search of factory jobs, the population of these urban areas changed extremely, leading to the development of urban communities and impacting various aspects of society such as economy, infrastructure, and culture.

Changes in Labour

Dear reader, the Industrial Revolution led to the movement of people from rural areas to cities to work in factories, leaving behind agricultural jobs as we see many of our young people do now. Hence, many children worked in factories to help support their families, often in dangerous conditions.

Also, the demand for skilled artisans decreased as machines took over tasks, leading to more unskilled labour jobs. Poor working conditions and low wages led to the rise of labour unions, which fought for workers' rights and better conditions. Despite the harsh conditions, the Industrial Revolution created many new jobs and opportunities for people.



Figure 6.8. Workers demonstrating during the Industrial Revolution Era

European demand for raw materials

The Industrial Revolution greatly increased the demand for raw materials in Europe. Factories and machines needed large amounts of raw materials like coal, iron, and cotton to produce goods. As production grew, so did the need for these materials, leading to more mining, farming, and global trade to meet the high demand.

Colonial Influence

During the Industrial Revolution, factories needed more raw materials like cotton, rubber, and minerals. Colonies became important sources of these materials, so European countries took control of them and used their resources. This made African countries specialise in the production of raw materials like gold, cocoa, coffee, rubber and oil palm to feed the industries in Europe.

Again, as European factories made more products, they needed new places to sell them. Colonies became markets for these goods, making the colonies depend on European products while, new military technology, like better guns and ships, gave European countries a big advantage over the people they colonised. This made it easier for them to defeat resistance and stay in control.

Finally, on colonial influence, the money made from factories was often used to build things in the colonies, like railways, ports, and telegraph lines. This made it easier to get raw materials from the colonies and ship them back to Europe.

Improvement in communication

The invention of the telegraph allowed messages to be sent over long distances while the invention of the steam-powered printing press increased the speed and efficiency of printing. This technology made it possible to produce newspapers and books in large quantities, making information more accessible to the public and fostering the spread of literacy and education.

Finally, the invention of the telephone by Alexander Graham Bell in 1876 allowed for voice communication over long distances. Telephones soon became essential for business operations and personal communication, further bringing the world closer.



Fig. 6.9. Pictures of Telegraph.

Transportation

The Industrial Revolution changed transportation in big ways. Before, most travel was by foot, horse, or boat. But during the Industrial Revolution, inventions like steam engines and railways made travel faster and easier. Trains could carry goods and people farther and faster than ever before. This made trade between cities easier and helped industries grow faster. Roads also improved to handle more traffic, making travel by horse and cart more efficient. Overall, the Industrial Revolution made transportation faster, more reliable and connected distant places like never before.



Fig 6.10 Pictures of various modes on transport

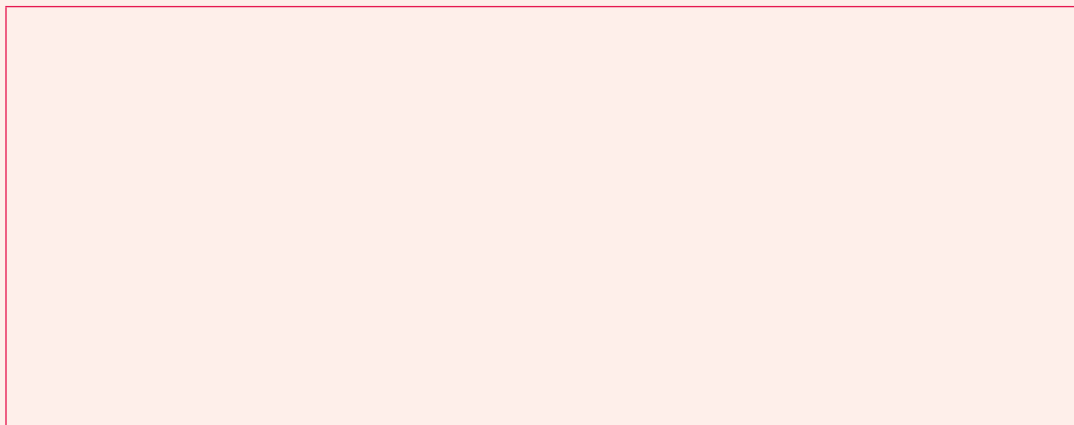
International trade

During the Industrial Revolution, trade between nations increased a lot. New machines and factories made it easier to produce goods faster and cheaper. This meant countries could make more things to sell abroad. Steam-powered ships and trains made transportation faster and safer, so goods could be shipped farther away. Also, new ways of communication, like telegraphs, helped businesses coordinate across long distances.

Trade grew because countries could specialize in what they were best at making. For example, one country might be good at making cloth, while another was good at making machines. They could trade these goods, which helped their economies grow. Overall, the Industrial Revolution made trade between nations bigger and more important than ever before.

Activity 6.3

Highlight key inventions that promoted trade among countries during the Industrial Revolution era.



Activity 6.4

Annotate on the map below some areas where the Industrial Revolution had an impact on Africa. Think about the different ways in which the Industrial Revolution impacted Africa and the different areas that were affected.



Dear Reader, thanks for going through this section successfully. You are a star!!

EXTENDED READING

Click on the links below to watch videos on the Industrial Revolution

<https://youtu.be/mjI641NqI1I>

<https://youtu.be/Xpb9XKmRsyw>

Review Questions

1. State the origin of the Industrial Revolution and discuss any three ways by which it impacted the African continent
2. Discuss any three negative effects of the Industrial Revolution on the world community
3. Discuss any three advantages of the Industrial Revolution to the African continent
4. How did the Industrial Revolution change the way goods were traded between countries?

Answers to Review Questions

1.
 - Great Britain
 - Urbanisation
 - Economic growth
 - Dependency on raw materials
2.
 - It intensifies colonialism and imperialism
 - Migration from rural to urban centres with its associated vices
 - The use of machines to replace hand- -made activities brought unemployment
3.
 - It brought about technological Advancement
 - Economic development
 - Infrastructural development
4.
 - Increased **Production Efficiency**
 - Diversification **of Goods**
 - Improved **Transportation**
 - Expansion **of Markets**
 - Globalization **of Trade**

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4. <https://www.google.com/search?q=industrial%20revolution%20inventions&udm=2&hl=en&sa=X&ved=0CCMQtI8BKAJqFwoTCIDQkP7bnIcDFQA-AAAAAdAAAAABAH>

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