

In 1807, an American called Robert Fulton produced the steamboat. Henry Bell produced the steam ship in 1811 for passenger transport. It used firewood as fuel at the beginning and later coal. The production of motor car in 1885 by the German, Daimler and the production of the aeroplane by Wright brothers in 1903, made a huge change in the transport system. Thus, as a result of the expansion of the industrial revolution, there was a rapid change in all forms of transport; land, water and air transport.



Fig 1.10 Daimler's motor car



Fig 1.11 Aeroplane produced by Wright brothers

❖ Expansion of Communication Sector

There was a rapid development in communication sector too in parallel to the development in transport. The postal service that existed in Britain up to this was very costly. A need arose to exchange letters quickly for a cheaper price in a shorter time for business activities.



Fig 1.12 – Several experiments to develop communication between two distanced places using electronic methods were conducted from the beginning of the 19th century. As a result of this, an apparatus was produced to communicate using human voice, between two places through cables in 1876. It is called the 'telephone'. It was produced by Alexander Graham Bell.

A new postal service which was called 'Penny Postal Service' was started for this in 1840. A letter could be sent to any corner of the country by spending just a penny (pence) through this.

There arose another need for sending messages between two places more quickly than sending letters with the rapid development of industrial and transport sector. As a result of the experiments conducted for this, Samuel Morse was able to start telegraph service in 1844. Sending messages between two places through a cable was started in this method using symbols.

An immense change took place in the communication sector in 1895 when Guglielmo Marconi invented the method of sending messages through radio signals and then John Logie Baird invented the television. These two inventions supported not only the development of communication but also the development of trade and commerce including other economic activities.



Fig. 1.13 John Logie Baird and the television he invented



Fig 1.14 Marconi's radio

❖ Expansion of Agriculture

There was a rapid development in agriculture in parallel to the industrial revolution. Several factors that affected this can be identified as;

- ▶ Beginning of mega farms
- ▶ Changing of crops
- ▶ Using new technology in animal husbandry
- ▶ Using new agricultural methods and equipment

The establishment of factories expanded with the industrialization attracting more people to cities. This left their land in villages uncultivated. The rest of the minor proprietors had to give up their lands due to various reasons. Such small lands given up thus and the lands taken over from other farmers were combined together to make mega farms. Agriculture developed as a result of cultivating these lands which came under the encroaching movement.

Change of crops in cultivation helped to reduce spreading of diseases and to increase productivity. Jethro Tull introduced the line sowing method with horse tethered ploughs. This method helped to reduce the number of seeds needed for sowing and increase productivity.

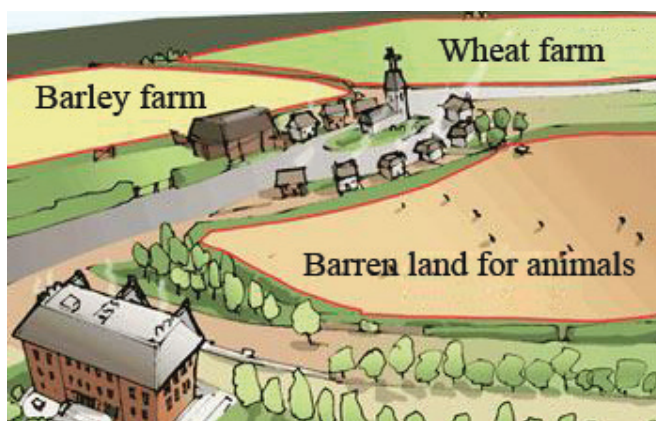


Fig 1.15 Cultivation using change of crops

At the same time, animal products increased due to the new technological methods used in animal husbandry. One example is the findings regarding breeding of sheep made by Robert Bakewell.

The invention of efficient equipment that came with the industrial revolution altered the field of agriculture completely. Machines were produced to clear forests, prepare the land and produce seeds. Further, paying attention on producing manure to achieve more productivity in agriculture is an important move. As a result of experiments done in this field, a type of manure called 'Guano Fertilizers' was produced in Africa for the first time in 1800. Then it was produced in America also. After some time chemical fertilizers and agro chemicals were produced.

Agricultural and animal products could be sold at a cheaper price because they could be produced with less expenditure owing to the store facilities and modern transport methods that came as a result of the industrial revolution. As a result, there was a high demand for agro products.

2. Expansion to other countries

The industrial revolution that began in Britain spread to the countries in the European continent also within a short period of time. Later it went to Asian, American and African continents also. There were several reasons for the spread of the industrial revolution to other countries in the 19th century.

- Increase in demand for goods that came as a result of rapid increase in world population
- Development of travel and transport in Europe
- Discovery of coal in France and Germany

As a result, other countries in the world too started to speed up their production using machines in the same way England did. Industrial centres emerged in areas that were situated close to markets and where raw materials were found in abundance in Germany and France. Germany that was able to mark an increased industrial development, had become a powerful country at the beginning of World War I. Then the industrial revolution spread to other European countries like France, Belgium, Austria, Hungary and Prussia. The Austrian empire built roads to a length of 30000 miles and Belgium doubled the length of its roads at the same time. Then, every country started laying railways. The effects of the industrial revolution were felt in states in America that existed as colonies of Britain as well. There was a rapid industrial development after independence in that country.

Japan was an Asian country which had an enormous development in the industrial sector during the latter half of the 19th century and the first few decades of the 20th century. Japan has become a country that holds a competitive place among the countries that have obtained a rapid development in science and technological fields by following the western methods and models.

The influence of the industrial revolution was greatly felt in many Asian countries including China, India and Sri Lanka by the 20th century. Thus the world became a global village because of the industrial revolution that spread to the other countries in the world and the rapid development it created in transport and communication fields.

Results of the Industrial Revolution

Broad changes occurred in political, social and economic sectors in many countries due to the industrial revolution that took place everywhere in the world. These results had both good and bad characteristics.

❖ Changes in the Political Field

The industrial revolution resulted in a wealthy class that invested money for profit and an underprivileged class that survived by selling labour. The rich exploited the labour of the underprivileged in their businesses and earned a huge profit. Yet the living conditions of the labourers who worked in factories were very poor. Because of this suppression there were many clashes between the rich and the poor including the emergence of labour unions, boycotts, struggles for rights, etc. This situation ended in the expansion of political beliefs such as socialism and liberalism.



Fig 1.16 - A struggle for rights by labourers

Adam Smith presented the concept called “laissez-faire” which led to the expansion of capitalism throughout the world. *Laissez-faire* means reducing the government involvement and giving more allowance for private sector involvement in the economic matters. At the same time, as the industrialization spread throughout Europe, there arose a need for getting raw materials for a cheaper price and selling the products at a higher prices. Therefore, the European countries had to compete

for tightening their political grasp in the colonies. This new imperialism which came after 1850 is called neo-imperialism. This struggle of European countries to capture new colonies became a major factor that led to World War I.

❖ Changes in the Economic Sector

One change that took place in the industrial revolution is the expansion of industrial products and commercial activities taking the first place in the economy. Accordingly, a wealthy class that owned factories and a class of business people gradually developed. Farmers who owned small lands had to come to cities and join these factories as they could not carry on working in their farms. Because of that, the self-sufficient economy failed and emerged a working class that worked for a salary. Thus, the agro-economic system broke down and the import-export economy came forward. Agricultural production too became industrialized and a number of food types came to markets. As a result, both local and foreign businesses developed in European countries and Asian, African and Latin American countries which were the colonies of European countries. In the same way, the capitalist economic system too spread rapidly around the globe.

Private entrepreneurs could not afford to invest money on these expanded businesses individually. So, several entrepreneurs got together and formed combined business companies. These companies expanded their commercial activities into Asian, African and Latin American countries with the help of their governments to achieve their targets.

At first, these trade companies consisted of local businessmen only. Yet, towards the first part of the 19th century, these companies became multi-national companies. These companies that were engaged in production of goods and buying and selling simultaneously were engaged in monetary and banking activities. This made transactions and loan facilities easy for the entrepreneurs.

❖ Impact on the Society

The society was influenced both positively and negatively due to the industrial revolution. Many new cities were created as a result of the industrialization and the lives of people who lived there were greatly affected. People could afford to buy those items that were produced in bulk in the factories. At the same time these factories generated a lot of new job opportunities. As a result people could enjoy better living conditions.

The number of cities and the size of cities in Europe increased very fast as a result of the industrialization. The only outcome of them was that they became unbearably populated. Yet, the development of basic facilities of these cities came about very slowly. For an example, though in Vienna, within 20 years before 1847 the population increase is 20%, building houses increased in 11.5% only.

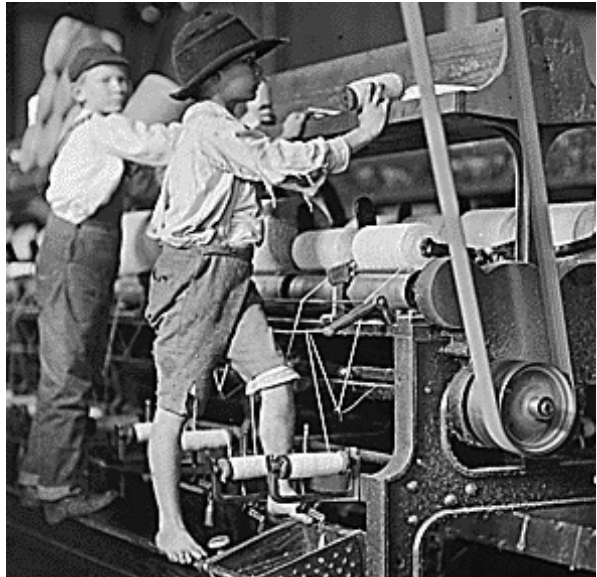


Fig 1.17 – Child labourers who worked in factories during the industrial revolution

In many countries of the world new cities emerged as a result of the industrialization and villagers

began to migrate to these cities. The increasing number of job opportunities in cities that emerged due to mega industries sped up the urbanization.

One major social outcome of the industrialization is the formation of a classed society. By the 20th century economic activities of all European countries were governed by the class of rich factory owners. This rich class consisted of two major fractions.

- Aristocrats who owned lands
- The other class consisted of middle class business owners, small scale traders, factory owners, bankers, contractors, engineers and lawyers, etc.

They employed labourers for less wages and earned heavy profit through that. People in the rich class developed comparatively better living conditions and spent more comfortable and enjoyable lives.

But, the living conditions of the working class people were in a very poor state. The husband and wife both in the same family had to work in order to survive and sometimes they had to send their children too to work. They had to suffer a

lot in these factories working for 12 -14 hours and the jobs they had to do were really tormenting. Women and children had to work in factories where there were no facilities and protection. Labourers had to reside close to the factories in industrialized cities. They had to live in shanties or lined houses which did not have minimum sanitary facilities. All members of the family had to live in one room. Thus, what the underprivileged class which was the majority of the society received were unfavourable living conditions, poverty and a meagre salary. Under these adverse circumstances drunkenness and other abuses were inevitable.

Many countries paid their attention to resolving these social disparities by 18th and 19th centuries. At the same time labourers came together as unions and started struggling to get their salary increased, the number of working hours reduced and sanitary and other facilities increased. Therefore, every government had to impose laws for the social and economic welfare of the working class.



Fig 1.18 A factory emitting poisonous gases to the environment

Another bad effect of the industrial revolution is the environmental pollution. Water sources got contaminated due to the addition of waste materials to water sources by factories and the fumes released by factories became harmful for the health of the people. Further, the accumulation of poisonous gases in the atmosphere threatened the existence of human beings.

↓ **ACTIVITY 4**

1. Conduct a debate on good and bad effects of the industrial revolution.
2. Give answers to the following questions.
 - I. Write three changes that took place in the political field due to the industrial revolution.
 - II. Write three changes that took place in the economic sector.
 - III. Write three changes that took place in the society.

1.3. Effects of the Industrial Revolution on Sri Lanka

How the industrial revolution that started in Britain spread throughout the world within a short time has been explained above. Although the industrialization that took place in Britain and other European countries did not take place in Sri Lanka in the 19th century, the effects of the industrial revolution could be identified from Sri Lanka too. The major reason for that is, Sri Lanka being a colony of Britain when industrial revolution started. British people came to Sri Lanka and started mega scale cultivations. Many factories were started in connection to thus started cultivations such as tea, coconut, rubber and machines were imported from Britain to be used in those factories.

Important incidents of this period:

- Starting of a mill to pound coffee by the governor, Fredric North in 1804 AD
- Using machines for activities of tea factories such as drying, grading and exporting
- Using machines to prepare rubber for exporting
- Introduction of Macadam method to build roads in 1885

There was a need for manpower for the estates and factories and the labour class was formed by the people who worked there for salary. Landowners and factory owners became the affluent class and they organized themselves separately as a wealthy, educated middle class. The capitalist economic system grew in Sri Lanka and import and export trade held a prominent place. The necessity of a banking system was felt in order to handle financial transactions between countries in import and export. So, banks were started in Sri Lanka.

The transport system had to be developed in order to carry the estate products to trade centres and the harbour in Colombo and supply necessities to estates. Up to this time transportation was done by means of carts. Because it was not so efficient, roads and railways were introduced. The Colombo - Kandy road was constructed during the time of the governor, Edward Barns. Thereafter, roads to Kandy were built from Kurunegala and Dambulla. After that, the system of constructing roads using stones and tar was started. Further, the wood bridges that existed over water ways were replaced by iron bridges. The governor, Henry Ward started laying railways. The construction of the Kandy railway was started in 1858 and was completed in 1863. In August 1867, a train service was started from Colombo to Kandy for the first time. After that it was extended from Peradeniya to Nawalapitiya in 1871 and up to Bandarawela in 1899.

With the development of roads and transportation, trade centres were started and they expanded to cities. Gampola, Badulla, Ratnapura and Matale are such cities beyond Colombo that were populated during this time. Sending messages was done through a messenger up to this time. An official postal system had been started by 1815 connecting the cities like Colombo, Trincomalee, Galle, Kandy and Jaffna. This was carried out using chariots. Thus, running chariots was started for the first time in Asia, in Sri Lanka. The Sri Lanka's first postal stamp was issued in 1857. By 1903, 340 post offices had been opened around the country. The telegram service was started in 1858.

↓ **ACTIVITY 5**

Prepare an article on 'How Industrial Revolution affected Sri Lanka' discussing the following points.

- Expansion of estate cultivation and mega scale factories
- Wealthy class that owned estates and the working class
- Postal service and the printing industry
- Construction of roads

Establishment of British Power in Sri Lanka

Introduction

You studied in grade 10, how the Portuguese came to Asia and how the Portuguese and the Dutch people occupied the coastal region of Sri Lanka. After those two nations, the next European nation that imposed its power on Sri Lanka was the British. They who spoke English language were called the English. This lesson explains how the English established their power in Sri Lanka and the struggles that arose against them in the first half of the 19th century.

2.1 Arrival of British in Asia

The English who noticed that the Portuguese and the Dutch people were earning a lot of profit from the trade activities in Asia, also paid their attention to Asia. As a result, a group of English businessmen established the East India Trade Company in December 1600, by a royal warrant obtained from Queen Elizabeth I to do trade activities in Asia. The first fleet of ships of this company had gone to Sumatra islands and started trade. Then, another fleet of ships came to India under William Hokins and conducted discussions about trade with the Mughal emperor, Jahangir.

At the beginning of their visits to Asia, the English tried to tighten their trade relations with Southeast Asian region.

There had been fights between the Portuguese and the Dutch to claim the trade power in Southeast Asia during the first two decades of the 17th century. At certain occasions, the English have given their assistance to the Dutch against the Portuguese. The Dutch never expected to see the English developing a power in Southeast Asian islands where spices grew well, although they obtained the help of the English to fight their common enemy, the Portuguese. Because of this, in 1623, the Dutch attacked a fortress in a spices island, Ambon and killed a group of English people living there. As the English did not have sufficient power in the region to retaliate the Dutch attack, they withdrew themselves from the southeast asian region. It seems that they completely focused their attention on India after that.

It took more than 10 years for the English to establish trade relations with India though they tried it since 1607. As the English worked very tactfully in India, they were able to start trade centres in several areas such as Bombay, Calcutta and Madras by the latter part of the 17th century. Yet, the English had to compete with the French other than the Dutch to protect their trade because from 1664, the French also came to India and established trade centres in places like Pondicherry, Karikal and Chadranganagar. A political battle began between the British and the French by the 18th century to establish their power in India.

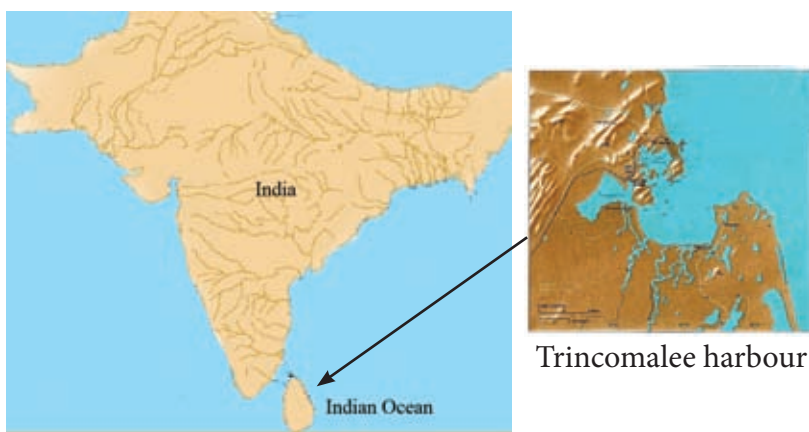
2.2 The British focusing their Attention on Sri Lanka

The English did not pay any attention to Sri Lanka for about a century after they came to India. The reasons for this are that the English had not yet firmly established their power in India and the Dutch had a strong fort system in the coastal line of the island followed by the Portuguese. The English began to pay more attention to Sri Lanka when they who were satisfied so far with trade power, started exercising political power on India in the first half of the 18th century because the Mughal empire in India started to decline. There were two major reasons for that special attention.

1. The location of Sri Lanka
2. Getting valuable trade items such as cinnamon from Sri Lanka

The English felt the importance of Sri Lanka owing to two reasons. They were; the location of Sri Lanka close to India and Sri Lanka being an excellent centre for the administration of naval and trade activities in the maritime zone around India including the Bay of Bengal. The English strongly felt the necessity of a harbour to repair the ships damaged due to enemy attacks in the fights between the British and the French around the Bay of Bengal. The English had a special interest in the Trincomalee harbour. Some reasons that made the English to pay attention to the Trincomalee harbour are given below.

- ❖ The location of Sri Lanka facing the Bay of Bengal
- ❖ It was important for the British to protect the naval power in the eastern coast of India
- ❖ The ability to use Trincomalee harbour to protect ships from monsoon winds that come from Northeastern region



Map 2.1 – Location of Sri Lanka and the Trincomalee harbour

The English knew that if the Trincomalee harbour which was an excellent centre for the security of India and for regulating the naval activities in the Indian Ocean fell into the hands of the French it would be a great loss for them. Hence, the importance of the geographical location of Sri Lanka and the great importance of the Trincomalee harbour became the major reasons to draw the attention of the English to Sri Lanka.

Sri Lanka was a famous country for spices like cinnamon even by that time. The English knew that Sri Lanka produced high quality cinnamon which had a good demand in the European market and the Dutch earned a great profit by selling cinnamon. Therefore, the English wanted to take the sole authority of selling cinnamon into their hands. Other than cinnamon; pepper, cardamom, cloves, pearls, gems and ivory were some other items that had a good market. The English wanted to establish the political power in this country because of the above mentioned reasons.

↓ **ACTIVITY 1**

Discuss the factors that drew the attention of the English to Sri Lanka under the following headings.

- Location of Sri Lanka
- Ability to obtain spices such as cinnamon

❖ Diplomatic Relationships between the English and the Kandyan Kingdom

In the same way that they sought the assistance of the Dutch to chase the Portuguese away from Sri Lanka, the Sri Lankan kings thought of seeking the assistance of some other nation to drive away the Dutch too. Therefore, King Keerthi Sri Rajasinghe sent messengers to both the English who were in India and the French. That paved the way for the English messengers to reach the kingdom of Kandy. Three English messengers had visited the Kandyan kingdom several times before they captured the hill country.

- ▶ In 1762, John Pybus came to the hill country
- ▶ In 1782, Hugh Boyd came to the hill country
- ▶ In 1795, Robert Andrews came to the hill country

King Keerthi Sri Rajasinghe was the ruler of the upcountry when John Pybus came there. The other two messengers came during the reign of King Rajadhirajasinghe. The English intended to establish trade relationships with Sri Lanka through the visits of John Pybus and Hugh Boyd. The English and the Dutch stopped their fighting during these visits and used the Trincomalee harbour in mutual understanding when it was needed. As a result the English were reluctant to help the king against the Dutch. The kings of the hill country were not interested in creating bonds with a nation that was not ready to help them defeat the Dutch. Therefore, the first two diplomatic visits were not successful.

After the English navy captured the Trincomalee harbour which was in the hands of the Dutch, in 1795, Robert Andrews visited the hill country and met King Rajadhirajasinghe. The purpose of his visit was to discuss with the king how they could get the assistance of the kingdom of Kandy in the fights to conquer the areas governed by the Dutch. The king agreed to support the English forces. Yet, the English, after capturing the Dutch fortresses, understood that the battle against the Dutch was not as hard as they anticipated. Therefore, the English did not like to share with the Sinhala kings, the profits they would receive by capturing the Dutch held areas. As a result, the English did not wish to agree to the conditions of the king and establish long lasting relationships with the king of the hill country.

↓ **ACTIVITY 2**

Complete the following table with the information about the diplomatic visits by the English to the hill country.

Year	Name of the messenger	Purpose of the visit	Result

2.3. Establishment of British Power

Three distinguished stages can be seen in the colonization of Sri Lanka by the British.

- ▶ The English East India Trade Company capturing the coastal areas of the island in 1796.
- ▶ Turning the coastal areas governed under the East India Trade Company into a colony of the British crown.
- ▶ Capturing the hill country by the British in 1815.

❖ Establishment of British Power in the Coastal Areas of Sri Lanka

The new political situation that emerged in Europe after the French revolution in 1789, affected the colonization in Asia by the Europeans. The army of the newly formed French government after the French revolution invaded Holland in 1794. King William V who was the Stadtholder of Holland escaped to Britain. Holland, the country of the Dutch fell into the hands of the French. As a result there was the danger of the Sri Lankan coastal areas governed by the Dutch, falling into the hands of the French. The English, who very well knew the value of Sri Lanka, used this opportunity to capture Sri Lanka. The English made the Stadtholder of Holland who was seeking refuge in Britain due to the French attack, send a letter to their advantage to the Dutch governor of Sri Lanka.

Because the Stadtholder sent the letter from the Kew palace of Britain, it is known as the **Kew letter**. The letter said that the English troops should be allowed into the Dutch held areas of Sri Lanka in order to prevent them from falling into the hands of the French. The Dutch governor of the island, Funn Englebeck received the letter in February 1795. Yet, he was reluctant to let the English troops into his fortresses. Because of that the English attacked the Dutch held Trincomalee in 1795. The Dutch surrendered to the English with no conditions.



Fig 2.1 – The Dutch stadtholder , William V



Fig 2.2 – The Kew Palace in England

After Trincomalee fell into the hands of the British many other fortresses such as; Batticaloa, Mullathivu, Point Pedro, Jaffna, Mannar soon surrendered to the English. Because both Colombo and Galle surrendered to the English, all areas that were under the Dutch fell into the hands of the English. A treaty was signed between the Dutch and the English, allowing the Dutch to leave the country peacefully, avoiding a further loss for them. This was signed on February 16th. With that the coastal areas which were in the hands of the Dutch fell into the hands of the English.

❖ Governance of the Coastal Areas under the East Indian Trade Company

When the Portuguese and the Dutch ruled the coastal belt of Sri Lanka, they had organized the administration well using native officers as much as possible. Yet, the English Trade Company did not understand this. Therefore the English hired

officers from the Madras government and governed the parts they captured under Madras rulers. This lasted from 1796 to 1798.

A Resident was appointed to Sri Lanka under the Madras administration to rule the coastal areas of Sri Lanka. A group of assistant supervisors was appointed under the Resident to collect income and they were named as collectors. Their service centre was named as Kachcheri. That was how the Kachcheri system was started in Sri Lanka. Another group of officers was appointed in assistance to the collectors who were called as Avumildars. More officers were there to help the Avumildars and all these groups were engaged in collecting income under the supervision of collectors.

The local officers like Mudliars were ignored in the English administration. People were brought from Madras for the above posts and those who came from Madras did not have any knowledge about the local languages, culture and traditions. The relationship between the general public and the administrative officers became distanced because such a group of officers was appointed for the civil administration, legal system and income collection.

The India Trade Company had spent a lot of money in capturing the coastal belt of Sri Lanka. Another significant feature of the British administration is their attempts to cover the above mentioned cost and to achieve fast profits. They imposed several new taxes in the coastal areas to meet the above target. People in the coastal areas were in trouble when they had to pay those taxes in cash. One such example is the newly introduced 'tax on coconut trees.' Thus, someone who owned more than 10 coconut trees had to pay a tax of one silver panam (six cents) for each coconut tree. People were irritated because the tax was charged without considering the nature of the harvest and they had to pay it in cash. This soon became an insurgency due to the repugnance of the general public towards the new administration. This rebellion that began in 1797 against the India Trade Company extended to all coastal areas quickly. This was suppressed after much effort by the British. This insurgency gave evidence to the fact that there was much resistance to the English administration at its very beginning. Therefore, a commission was appointed to look into the situation of the coastal areas and suggest changes. This commission was named as Meuron commission after the name of Brigadier General De Meuron who headed the commission.

Some proposals of the Meuron Commission;

- Replacing the madras tax collecting officers with local officers.

- ▶ Removal of new taxes including the tax on coconut trees.
- ▶ Appointing officers for legal affairs and income collection separately.
- ▶ Re-establishment of the Dutch court system.

A change occurred in the English administration of the coastal areas of this country since October, 1798. Thus, the British government appointed a governor for the administrative and political affairs. That is how the governor, Fredric North came to Sri Lanka. Still, it was the Trade Company that was in charge of collecting income to cover up the expenditure incurred by the English Trade Company, in capturing the coastal areas of Sri Lanka. The governor is responsible for the British crown and should follow the instructions of the board of directors of the Trade company.

This system of administration was known as 'dual administration.' This system continued from 1798 to 1802. The officers of the Trade Company in Sri Lanka did not give enough support to the governor, North. Due to such failures in the dual administration system, it was discontinued in 1802 and the coastal regions of Sri Lanka were declared a colony of the British crown. After that all parts that belonged to the British were directly governed by the British government.

↓ **ACTIVITY 3**

Build short questions and answers under the topic, "Conquering the Coastal Parts of Sri Lanka by the British."

❖ **Conquering the Hill Country by the British**



Fig 2.3 – Kandy, a natural place of security