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STANDARD NINE

HISTORY

TERM - III

UNIT 1

The Age of Revolutions

Learning Objectives

To acquire knowledge of

GGTBHB

I The American War of Independence

- The foundation of colonies by European powers in America and the later amalgamation and formation of 13 colonies under Britain
- Factors leading to the conflict between the colonies and England
- The opposition of the colonies to 'Taxation without Representation' leading to American War of Independence
- The course and outcome of the American War of Independence
- The American Revolution and the idea of democracy in the modern world

II The French Revolution

- The causes for the outbreak of French Revolution, political, social, economic and intellectual
- Circumstances leading to the convening of Estates General and the defiance of Third Estate to the orders of the French Monarch Louis XVI

- The Tennis Court Oath and Fall of Bastille resulting in the overthrow of monarchy and establishment of National Assembly
- The National Assembly and the conspiracy of the dethroned king with other European powers to crush the revolution, leading to invasion of France by Austria and Prussia
- Formation of revolutionary government of National Convention. Execution of Louis XVI and proclamation of Republic in France.
- Abolition of feudalism, confiscation of church property, declaration of the rights of citizens and the introduction of a constitution
- Jacobins capturing power and the dictatorial functioning of Robespierre.
- The fall of Robespierre and the end of Revolution

I

American War of Independence

Introduction

Three great revolutions in the eighteenth century brought about striking changes in Western Society: the American Revolution, the French Revolution and the Industrial Revolution. The American Revolution was the first political revolution. Though not so vital as the French Revolution, which was to shake the social foundations of Europe, the political changes engendered by the American Revolution provided inspiration for other anti-colonial struggles.

Thomas Jefferson, who drafted the "Declaration of Independence," asserted even at the beginning of 1776 that Americans had 'neither wish nor interest to separate from English monarchy'. In July 1776 the same Jefferson got his Declaration of Independence adopted at a "Continental Congress" of the 13 colonies with its assertion that 'all men are created equal.' It was a revolutionary statement at a time when respect to kings and nobles was universal. In this lesson we trace the foundation of English colonies in America and narrate the revolt of the colonies.

1.1 Colonies of European Powers

The Portuguese and the Spanish were the pioneers in geographical explorations and the founding of colonies. The English lagged far behind in their colonisation efforts. The English possessed a theoretical claim to the North American mainland in view of the voyage of John Cabot (1497) off the coast of Nova Scotia. But they neither had the means nor the desire to back up that claim during the 16th century. Jamestown was the first British colony in America (1607). The ship *Mayflower* had taken a batch of Puritans from Plymouth, England, to America in 1620. They landed in the north and called the place New Plymouth. Another Puritan group led by John Winthrop set up the Massachusetts Bay Colony.

Ship Mayflower

Pilgrim Fathers

Reformers who led a religious movement to reform the Church of England dispensing with the teachings and practices of Roman Catholic Church were known as Puritans. The Stuart kings, James I and Charles I, did not tolerate their attempts to reform the Church of England. The persecution of Puritans prompted many to leave England and settle. In the colonies they founded they organized a Puritan way of life.

Many other groups before the Puritans had reached other parts of the North American coastline and soon many more followed, till there were colonies dotted all over the east coast from north to south. There were catholic colonies, and colonies founded by Cavalier nobles from England and Quaker colonies (Pennsylvania was named after the Quaker Penn).

George Fox

Quakers were members of a Christian group called the Society of Friends who, while laying emphasis on the Holy Spirit, rejected outward rites and an ordained ministry. George Fox was the founder of the society in England. Quakers have the reputation of actively working for peace and opposing war.

The Dutch founded a town and called it New Amsterdam. The English later changed the name to New York. There were also Germans, Danes and Frenchmen. By the end of the eighteenth century, there were thirteen colonies on the east coast all under British control. The 13 colonies (from north to south) were: Rhode Island, New Hampshire, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina and Georgia. By 1775, the population of the thirteen colonies had grown steadily reaching nearly 3 million, a third of Britain's population.

1.2 Plantations and the Slave Labour

As the Native Americans resisted attempts to make them work in the plantations, the European planters, chiefly of tobacco, in the southern states– Virginia, Carolinas and Georgia– in their search for labour resorted to acquiring slaves from Africa.

The innocent people of Africa were captured in man-hunts and sent across the seas in a cruel and inhuman manner. In the northern States conditions were different. There were compact farms, and not huge plantations as in the south. Large numbers of workers were not needed for these farms. Thus two economic systems developed in these colonies. Native Americans had no place in either of these. So these people were gradually pushed back to the west. This was made easier by the disunity and divisions among the Native American tribes.

1.3 Increasing incidence of Taxation

Each colony had a Governor and the legislatures acted as a check on his powers. Thus, initially, there was no conflict between the British and American interests. The English King and many big landowners in England had large financial interests in these colonies. The Seven Years War of 1756-63 between Britain and France had centred on the control of colonies, especially in North America. Britain defeated France and took control of Canada. But the war cost the English heavily. The British ministers proposed that the American colonists pay some of the cost of the war. So a series of taxes were imposed on the colonists. It should be noted that the Americans did not have representation in the British Parliament.

The Sugar Act of 1764 prohibited the import of foreign rum and imposed duties on molasses, wines, silks, coffee

Even before the arrival of Europeans in America, there was an indigenous population, called Native Americans (they used to be referred to as 'Red Indians'; it is now considered demeaning, and historians do not use this term any more), spread over the vast American continent. They belonged to various tribes and many of them were at war with each other. Besides they refused to work under conditions of slavery. Through a combination of violence and diplomacy Europeans conquered and defeated many of these tribes. Greatly reduced in numbers today they live in various reserves.


Native Americans

and other luxury items. As the Act was enforced ruthlessly, it led to protests by merchants in legislatures and town meetings. The preamble of the Sugar Act provided the slogan 'No Taxation without representation'. Soon the Currency Act was passed that insisted on colonies repaying the debt only in gold or silver. It was a huge burden on the colonial economy. The Quartering Act of 1765 required the colonies to pay for the cost of keeping British troops in America. The Stamp Act (1765) required that many printed materials in the colonies be produced on stamped paper produced in London, carrying an embossed revenue stamp.

1.4 Reaction of the American Colonies

The American colonists protested against all the above taxes arguing that they had to pay taxes for policies in which they had no say. The protests occurred at different levels of society. At the top, delegates from the colonies assembled and called for a boycott of trade with Britain until the taxes were withdrawn. This apart, groups calling themselves "Sons of Liberty" sprang up in all the colonies in 1765 and 1766. The Sons of Liberty acted like a political party and instilled a new political awareness among many ordinary Americans.

1.5 Townshend Acts

The British Parliament however wanted to assert its control over the colonies. In 1766 it passed the Declaratory Act. It affirmed Parliament's right to legislate for the colonies. There was not much opposition to it as it did not introduce any new taxes. Despite the withdrawal of the Stamp Act, the British still needed money to pay its troops and other expenses in the colonies. Hence, the British Finance Minister Charles Townshend introduced new duties on imports in 1767. Known as the Townshend Acts, they introduced duties on imports to colonies such as glass, paper, paint, lead and tea. Further, the British officers were empowered to search homes and businesses for smuggled or illegal goods.

There were widespread protests against the Townshend Acts. Merchants of Boston organized boycott of British goods. Soon other colonies joined the protest. The women formed their own organization called the 'Daughters of Liberty'. The leaders insisted on constitutional methods and asked the people to remain calm. The British mobilized more troops to encounter the protests. This angered the people further. In March 1770, resentment rose in Boston, when troops fired on a crowd which had thrown snowballs at them. There was firing by the troops resulting in many deaths. This incident is known as the Boston Massacre. It led to intense anti-British propaganda through newspapers, posters and pamphlets.

As a result of protests and boycotts, the British Parliament repealed the Townshend Acts. However, it retained the tax on tea, with the intention of encouraging the business of the East India Company by making it easy for it to take its tea to America and sell it there. This harmed the local tea trade and so it was decided to boycott this foreign tea.

1.6 Boston Tea Party

In many places the colonists obstructed the import of tea. In Charlestown, they unloaded the tea and let it rot in the dock. In New York and Philadelphia ships carrying tea were blocked. In December 1773, a group

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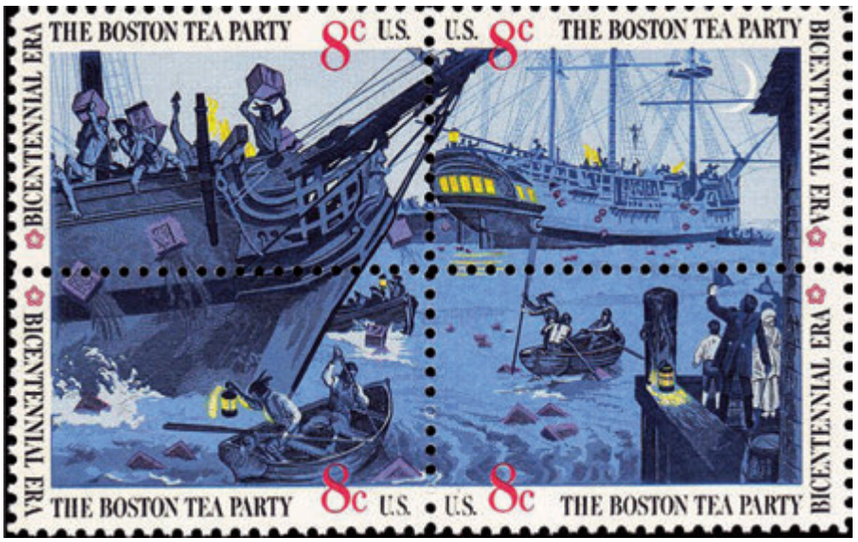


Boston Tea Party

of men disguised themselves as Native Americans boarded the cargo vessels and threw the tea overboard. Hailed as the Boston Tea Party, this was done publicly before a large sympathetic crowd. It was a challenge which led to war between the rebellious colonies and England.

1.7 American War of Independence

In 1774, a little before war began between the colonies and England, George Washington stated that no thinking man in North America desired independence.


George Washington

And yet he became the colonists' commander-in-chief and later the first president of the American Republic. So the colonies did not begin fighting for the sake of independence. Their grievances were taxation and restrictions on trade. They challenged the right of the British Parliament to tax them against their will. "No taxation without representation" was their famous battle cry.

Continental Congress, September 5, 1774


Thomas Jefferson

Disturbed by the developments in Boston harbour, the British government appointed General Gage as governor of Massachusetts with a mandate to quell the resistance. It also dispatched troops to Boston and passed the Intolerable Acts which decreed that all those who broke the laws would be taken to Britain for trial. In May 1774, in the Virginia Assembly, Thomas Jefferson declared that 1 June 1774 would be a day of fasting and prayer. In response

to this declaration, the colonial governor dissolved the assembly. Thereafter, the members drafted a resolution to form the Continental Congress. Soon members joined from other colonies. On 5 September 1774 the First Continental Congress met in Philadelphia. The Congress agreed to vote by the representatives of colonies and endorsed the resolution declaring the Intolerable Act null and void. It called for economic sanctions against the British. The Congress adopted a Declaration of American Rights.

Outbreak of the War

After the British troops shot down parading American militiamen at Lexington in Massachusetts, in April 1774 Governor Gage decided to seize arms hidden at Concord. When the local farmers came to know of this, they fought the British troops at the Battle of Lexington and then rushed to Boston to besiege the British garrison at Bunker Hill. It signaled the outbreak of the American War of Independence. Soon British-held Massachusetts was besieged by the militia. The patriot militia force of "Green Mountain Boys" captured Fort Ticonderoga in New York. The other colonies soon rushed to their help.

Second Continental Congress

The Second Continental Congress met on 10 May 1775 at Philadelphia. John Adams, Sam Adams, Richard Henry Lee and Thomas Jefferson were some of prominent members of the Congress. It organized the army gathered around Boston as the Continental Army and placed it under the command of George Washington. Still hoping for a truce, the Congress dispatched 'the Olive Branch Petition' to the king and adopted the Declaration of the Causes and Necessity of Taking up Arms.

As the war progressed, the Continental Congress assumed the functions of government. In July 1775, it appointed Commissioners to negotiate with Native Americans. It also established a Postal Department with Benjamin

American War of Independence

Franklin as Postmaster-General. A Committee was formed to explore the possibility of foreign aid.

Battle of Bunker Hill

On 17 June 1775 the Battle of Bunker Hill, the first major battle was fought in Massachusetts. The 2200 strong British troops were twice forced to retreat. On the third attempt British troops emerged victorious with a heavy casualty of nearly 1000 soldiers. After the battle Washington assumed control of the American forces. Soon the British forces retreated from Boston.

1.8 Declaration of Independence

In January 1776, an anonymous pamphlet under the title *Common Sense* was published. It was authored by Thomas Paine who had recently migrated to America from England.

From the Declaration of Independence: … that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men… That whenever any Form of Government becomes destructive of these ends … it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. … But when a long train of abuses and usurpations… evinces a design to reduce them under absolute Despotism, it is their right, it is their duty … to throw off such Government, and to provide new Guards for their future security.

It attacked the allegiance to the Crown and called for complete independence. More than 100,000 copies of the pamphlet were sold quickly. George Washington remarked, "*Common Sense* is working a powerful change in the minds of men." On June 7, 1776 Richard Henry Lee of Virginia moved a resolution for independence. After much debate the Declaration of Independence, drafted by Thomas Jefferson, was adopted by the Congress on July 4, 1776. This day is celebrated by the Americans as Independence Day.

1.9 War

On 2 July 1776, the British under General. Howe attempted to regain what they had lost. Washington was forced to evacuate Long Island. The main American army managed to reach Pennsylvania. While Howe waited in New York for the winter to pass, Washington made a daring attack on Christmas night at Trenton. The British forces were defeated in Princeton.

Civil War

Meanwhile Americans were divided among themselves as Patriots and Loyalists. About two-thirds of the people who supported the war were Patriots. The Patriots fought for independence and the Loyalists supported the British. The Patriots were better organized than the loyalists. The American War of Independence was as much a civil war as a war with the British. According to an eyewitness, "Neighbour was against neighbour, father against son and son against father."

French Alliance

In 1777 the British attempts at splitting the colonies into two by a campaign from the north failed. However, they managed to occupy Philadelphia. Washington's efforts to take a town near Philadelphia

Cornwallis: Born into an aristocratic family and educated at Eton and Cambridge, Cornwallis joined the army in 1757. Upon his father's death in 1762 he became Earl Cornwallis and entered the House of Lords, the upper house of Britain. His military action in the American War of Independence was praiseworthy, inflicting defeats on the American army in a few battles though finally he had to surrender his army at Yorktown. Despite this defeat, Cornwallis retained the confidence of successive British governments and continued to enjoy an active career. Knighted in 1786, he was appointed Governor General by the East India Company government in British India.

Cornwallis

were spoiled by Lord Cornwallis. But the British were defeated at Saratoga. This defeat paved the way for an alliance between France and the Americans. On 6 February 1778, France and America signed two treaties by which France recognized the United States of America and offered trade concessions. By June 1778 England and France were at war.

Victory at Yorktown

By the end of 1778 the theatre of war shifted to the south. In the Battle of Guilford Courthouse in March 1781 Cornwallis suffered heavy losses. He then marched towards Virginia. Finding not much support he took up a defensive position in Yorktown. Cornwallis was cut off from the sea by the French fleet. In September Washington attacked Yorktown, with a combined American and French troops. On 19 October 1781 Cornwallis surrendered. In 1783, the Peace of Paris was signed. Great Britain agreed to the independence of the United States. The military band played the tune 'The World Turned Upside Down' as British forces departed from Yorktown in 1781.

1.10 Results

The immediate result of the war was America's independence. For the first time a colonial power was overthrown by the colonised, leading to the establishment of a republican government in the United States. The colonists wanted to get rid of the feudal inequalities of Europe and they succeeded. For many followers of the Enlightenment in Europe, the language of the Declaration of Independence seemed a living fulfillment of their ideals. The Declaration of Independence of 1776 stated that "all men are born equal." But in reality the poor Black slaves did not fit in this. America had to fight a bitter civil war in the succeeding century, to abolish slavery.

By 1777 nearly all the colonies had a written constitution. These constitutions protected individual rights, freedom of press and freedom of religion. The Continental Congress had drafted the Articles of Confederation. The Church and the State were separated. Thomas Jefferson in his Virginia Statute for Religious Freedom introduced freedom of religion. It was later incorporated into the American Constitution.

The conception of people's right to a government of their choice encouraged the Latin American revolutionaries to strive for the overthrow of the Spanish empire in South America. Mirabeau quoted the Declaration of Independence with enthusiasm during the French

Revolution and the revolutionaries inspired by it were determined to fight against royal absolutism. The intellectuals of the time believed that the republican state was the only political structure in which individuals could preserve their basic freedom, including property and political rights.


Lafayette

Lafayette, who fought the British on Washington's side through to the conclusive battle at Yorktown in 1781, later during the French Revolution served the French National Guard as its Commander. He penned the Declaration of the Rights of Man and the Citizen, with the help of Jefferson, which the National Assembly adopted on August 27, 1789.

II

The French Revolution

Introduction

In the second half of the eighteenth century three major revolutions shaped the polity and the economy of the modern world. The American Revolution, as we have seen, helped end the pre-capitalist feudal past. The Industrial Revolution, to be discussed in the next lesson, laid the foundations for capitalism. The French Revolution affected the life and society in the whole of continental Europe. Its ideals inspired democratic movements across the world even centuries later.

The French Revolution exploded in 1789. The French monarchy of the *ancien regime* (political and social system that prevailed in France before the Revolution of 1789) had enjoyed unchallenged power for 140 years. Louis XIV and his great palace at Versailles had symbolized royal absolutism and the greatness of France. Yet, in the summer of 1789, that power suddenly begun to shake. Louis XVI had summoned the Estates General in May 1789. This body consisted of the representatives of three classes or "estates," as they were called: the clergy (men and women ordained for religious duties), the nobles and the commons (comprising lawyers, rich merchants, bankers and businessmen and wealthy landowners). But the representatives of the third estate, namely the commons had refused either to bow to the nobles or to obey the orders of the King. They proclaimed themselves a National Assembly and gathering on a tennis court after the King had cleared them out of their hall, swore on oath not to disperse until he gave them a constitution. Thus began the revolution of 1789 in France.


Louis XVI


Tennis Court Oath

(II) 1.1 Causes of the Outbreak

Political

Louis XV succeeded his great-grandfather Louis XIV and reigned for fifty nine years. He learnt no lesson that the king is not above law but bound by law from the English Revolution and the beheading of the King Charles I. In 1774 he was succeeded by his grandson Louis XVI. He was entirely under the influence of his wife Marie Antoinette, who believed, more than the King, in the Divine Right Theory of Kingship - the theory that the king was representative of god on earth and therefore for all his actions he was accountable only to god and not to anybody else. Both the King and the Queen were hated by the people.

Economic

On the eve of the French revolution France was going through a period of economic crisis. The French treasury was bankrupt because of its involvement in the Seven Years War that ended in defeat. French participation in the American War of Independence made the financial condition worse. The luxurious lifestyle of the royalty and nobles in Versailles court, in contrast to the grinding poverty of the common people, made the people accept the new ideologies of French philosophers of the eighteenth century. The Finance Ministers of the King, Turgot, Necker, Calonne and Brienne one after the other suggested reduction of royal expenditure and taxation of the first two Estates - the nobles and the clergy. Their advice was not only disregarded but they themselves were dismissed from service. To meet the resource crunch the government borrowed heavily resulting in a huge fiscal deficit. Nearly half the revenue went towards payment of interest for the loans. Under the circumstances, the French monarch Louis XVI was forced to convene the Estate-General, the combined body of three estates comprising nobles, clergy and commoners respectively.

French Nobles

Social

The condition of the already impoverished peasants worsened due to a series of bad harvests. It resulted in the rise of the price of bread. The peasants of the countryside and the labourers and artisans of the towns were the worst affected. There were hunger riots at the beginning of the reign of Louis XVI. They were followed later by fresh peasant risings. A vast number of people had become professional beggars. It was officially declared in 1777 that there were eleven lakhs of beggars in France. The peasants were hungry not only for food, but were also hungry for land. They hated the nobles and the clergy because they enjoyed many privileges, notably exemption from taxation.

The clergy, despite being a minority, numbering only about 130,000, occupied a preeminent position in France. They collected *tithe* (one tenth of the annual produce or earnings) from the common people. The nobility, also a minority, numbering about 110,000, was a landowning class enjoying feudal rights. They collected feudal dues from the peasants. Their land was tilled by the peasants. The farm produce of the peasants had to be processed in the mills of the feudal lord. The traditional hereditary

nobles known as *nobles of the sword* enjoyed hunting rights. They were against the rising middle class (bourgeoisie) or a new class of nobility, the status that was conferred by the king for their services. These nobles were known as *nobles of the robe.*

The middle class and the peasants together formed the Third Estate. The bourgeoisie (the capitalist class) were the privileged few but the bulk of the Third Estate was constituted by the representatives of peasants. The peasants paid taxes to the state such as *taille* (land tax), *gabelle* (salt tax), etc., and provided free labour (*corvee)* for the construction of public roads. Burdened by the demands of the state, nobility and clergy, the peasants were in despair at the prospect of dying of starvation.

Inspiration from French Philosophers

There were many notable thinkers and writers in France in the eighteenth century. The most famous writer of the time on rationalistic and scientific subjects was Voltaire (1694-1778). When imprisoned and banished, he had to live at Ferney near Geneva. Voltaire, Montesquieu (1689-1755) and Rousseau criticized the then existing conditions in France. Voltaire, was a prolific writer and activist, and was vehement in his criticism of the Church. His most famous work was *Candide.* His famous quote was: "those who can make you believe absurdities can make you commit atrocities." He is said to have once exclaimed, "I disapprove of what you say, but I will defend to the death your right to say it."

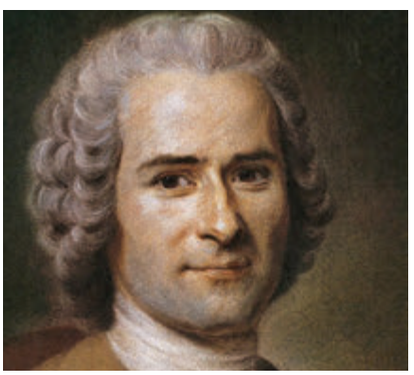
Another great writer, a contemporary of Voltaire, but younger than him, was Jean Jacques Rousseau (1712-78). His political theory set the minds of many afire with new ideas and new resolves. His ideas played an important part in preparing the people of France for the great revolution. He famously said in his book *Social Contract*, "Man is born free, but is everywhere in chains." He argued that the laws are binding only when they are supported by the general will of the people.

Montesquieu (1689-1755), who wrote *The Persian Letters* and *The Spirit of the Laws*, also defended liberty. He put forward the theory of separation of powers: The liberty of the individual would be best protected only in a government where the powers of its three organs, viz., legislature, executive and judiciary were separate. It would put in place the necessary checks and balances to prevent any one organ from assuming more power to itself.

An Encyclopaedia also came out in Paris about this time and this was full of articles by Diderot and Jean d'Alembert. These philosophers and thinkers, opposed to religious intolerance and political and social privileges, succeeded in provoking large numbers of ordinary people to think and act.


Voltaire


Montesquieu


Rousseau

American War of Independence

The American Revolution that broke out in 1776 and ended with the establishment of the American Republic inspired the French Revolution and provided them with a model. The French participation in the American War of Independence supporting the American cause against the British directly affected the French Revolution in two ways: one, it cost the French treasury heavily and the other, the French like Lafayette who participated in the American War of Independence came back with democratic ideals and played an active role in the French Revolution.

(II) 1.2 Course of the French Revolution

The Fall of Bastille

The critical moment came after the king shut out the commoners and the latter assembled in the Tennis-Court and took an oath that they would not disperse until they found a way out to their problems. The King tried to use force but his own soldiers refused to obey his orders. Louis then intrigued to get foreign regiments to shoot down his own people. This provoked the people to rise in revolt in Paris on 14 July 1789. They stormed the Bastille prison and set free all the prisoners. The fall of the Bastille was the first great turning point in the revolution. 14 July is celebrated as the National Day of France to this day. The subsequent popular risings all over the country emboldened the National Assembly to act swiftly.

Fall of the Bastille

National Assembly

This Assembly comprised moderate liberals, who wanted a constitution on the model of England and America. Their leader was Mirabeau. The Assembly was controlled by the middle classes and there was no representation to the peasants and the common masses. This National Assembly abolished serfdom, feudal privileges, including exempting nobles and clergy from taxation, even titles, and feudal courts. The Assembly then passed a Declaration of the Rights of the Man and the Citizen.

Mirabeau

Declaration of the Rights of the Man and the Citizen: This declaration was drafted by Lafayette, Thomas Jefferson and Mirabeau. Based on Natural Law, that asserts that certain rights are inherent by virtue of human nature, the rights of humans were declared universal… and valid at all times and in every place. Inspired by the Enlightenment philosophers, the Declaration was a core statement of the values of the French Revolution and had a major impact on the development of freedom and democracy worldwide.

The idea was taken from the American Declaration of Independence. But the American declaration is short, while the French one is long. The Rights of Man include the rights which were supposed to ensure him equality and liberty and

happiness. The Assembly brought about many other reforms. The vast property of the Church was confiscated by the State. A new division of France was made into eighty departments. The old feudal courts were replaced by better law-courts.

March to Versailles

However, the crisis intensified in Paris due to the high price of bread. Riots broke out. The women of Paris marched to Versailles to demand bread from the King. The crowd was in an aggressive mood. The crowd demanded that bread be provided to them. The royal family, including the King, was mobbed. They forced the King and the royal family to go with them to Paris.

March to Versailles

Flight to Varennes

The King's position was increasingly shaky. He was not able to reconcile to the legislations passed by the National Assembly. He decided to escape from Paris. Dressing himself as a valet, he escaped along with his family to Varennes, a border town. However, he was recognized there by a postman, arrested by the National Guards and brought back to Paris. From then onwards, he remained in Paris virtually a prisoner.

Girondins and Jacobins

There were many parties and groups fighting for control of power in the early days of the Revolution. There were the royalists still hoping to retain Louis XVI as an absolute king. The moderate liberals wanted to keep the King as a limited monarch. They called themselves the party of the Girondins. The hardcore republicans were the Jacobins. In foreign countries especially in England, there were the émigrés, the French nobles who had run away from the Revolution and were continually intriguing against it. All the kings and emperors of Europe, who were frightened by this mass upsurge were ranged against revolutionary France.

Constitution of 1791

In September 1791, the National Assembly framed the first constitution. It provided for a Constitutional monarchy. The Legislature consisted of a single chamber of 750 members. The franchise was limited to those who owned a certain amount of property. The King continued to be the Executive head, but his powers were considerably limited. But the common people who had stormed the Bastille were disillusioned with the developments and found another outlet for their revolutionary energy. This was the Paris Commune. This Commune was in direct touch with the masses. The Commune became the rival of the National Assembly composed of the moderate middle class.

Emigres and the Revolutionary War

Many nobles who supported the monarchy fled France and lived in exile. They were known as *Emigres* (those who had emigrated). This included the brothers of the King. They lived in the frontier towns bordering France and were preparing for

counter-revolutionary moves. In August 1791, Austria and Prussia together issued the Declaration of Pilnitz, pledging to restore monarchy in France. In April 1792, the Legislative Assembly which had succeeded the National Assembly declared war against Austria and Prussia. Foreign armies advanced into French territory and defeated the French troops. The King and his supporters were suspected of treachery. So the revolutionary Commune of Paris hoisted the Red Flag to signify the enforcement of martial law and in August 1792 ordered an attack on the King's palace. Though the King ordered shooting by his Swiss guards, he was finally deposed and imprisoned. The people of Paris angered by the action of the Swiss guards in shooting and killing many of them hunted down the supporters of monarchy under their leader Marat. In three days, from September 2, about 1500 suspected dissidents were put in prison. After a trial, they were killed and this incident is called "September Massacres." In September also occurred the first victory of the French troops over the invading Austrians and Prussians at the battle of Valmy. This saved the Revolution. On September 21, 1792 the National Convention met.


Marat

National Convention and the Reign of Terror, June 1793-July 1794

The first action of the National Convention was to proclaim the formation of a republic. The trial of Louis XVI was taken up immediately and he was condemned to death. He was guillotined. From the very steps of the guillotine, Danton, a great leader of the Revolution, addressed the assembled crowds and threw an open challenge to other European kings. The new republic of France, through conscription, built up a strong army. The wars particularly against Austria, Prussia and later England engaged Republican France. As a consequence it was not possible to deal with local social problems.


Danton

In order to depart totally from the ancient regime, the Convention created a new Republican calendar for France. All references to religion found in the old calendar's name were deleted, and a 10-day week followed. In this secular calendar, the twelve months of the year were named after natural elements, while each day was named after a seed, tree, flower, fruit, animal, or tool, replacing the saints'-day names and Christian festivals. (The republican calendar was abandoned by Napoleon on 1 January 1806.) The existing system of measures was replaced by a metric system based on the kilogram and the metre.

In the meantime there was a struggle for power between the various groups, chiefly between the Girondins and the Jacobins. The Jacobins won and at the beginning of June 1793 most of the Girondins' deputies were removed from the Convention. The Convention, dominated by the Jacobins, appointed two committees the Committees of Public Welfare and Public Safety and gave them wide powers. In September 1793 the Convention passed the Law of Suspects, which authorized the arrest of persons suspected of opposing the revolution. A month later twenty two Girondins' deputies of the Convention were tried by the Revolutionary Tribunal and sentenced to death. Thus began the 'Reign of Terror'.

Danton, Herbert and Robespierre emerged as the main leaders of the National Convention. However, they were divided on many issues. Robespierre controlled the Committee of Public Safety and eliminated his rivals. There was a massive peasant revolt in the Vendee partly because of the unwillingness of the peasantry to accept conscriptions. The Vendee revolt was suppressed with great cruelty. There was a strong movement against Christianity. The proponents of this movement proposed the worship of Reason. There was great Festival of Liberty and Reason in Notre Dame Cathedral in Paris. But Robespierre was conservative in religious matters and neither he nor Danton approved of this movement. Herbert and his supporters who had organized the festival were sent to the guillotine. This caused the first split in the Jacobin party.


Robespierre

Danton and others protested against Robespierre for sending too many people to the guillotine. But they were also executed. Surrounded by enemies and totally alienated from the people, Robespierre and his clique chose to intensify the Terror.

The Law of Suspects made spreading of false news to divide or instigate the people a punishable crime. Under this Law, large groups of persons were tried together and sentenced. This Terror lasted for forty six days. On 27 July 1794, the Convention suddenly turned against Robespierre and his supporters. The next day Robespierre was sent to the guillotine.

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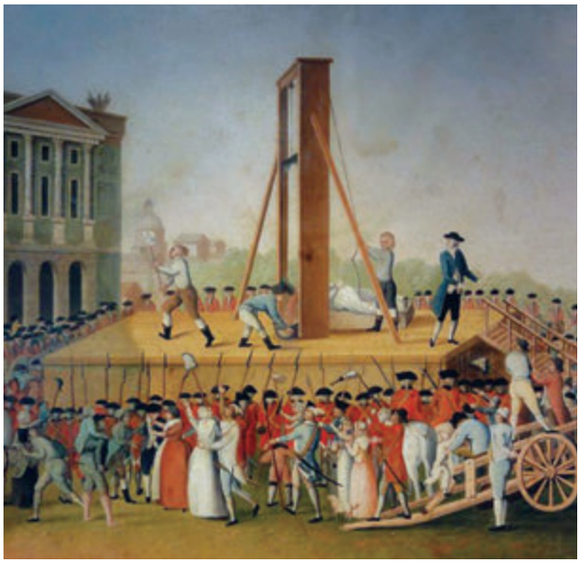
Guillotine

The Reign of Terror ended with the fall of Robespierre. Robespierre, the dictator of the Convention, though he was honest, patriotic and a person of integrity, earned notoriety by sending many of his colleagues to the guillotine. In October 1795 the Convention broke up and a Directory of five members assumed power.

The Directory was short lived and was replaced by the Consulate with Napoleon as the first Consul. This Consulate was abolished by Napoleon Bonaparte, who later crowned himself as the Emperor of France. The Revolution thus failed, shattering the dreams of the idealists and the hopes of the poor. Yet the republican idea and principles of liberty, equality and fraternity continued to influence generations to come.


Napoleon as Consul

(II) 1.3 Impact of French Revolution

The French Revolution had many lasting results. It marked the end of the system of absolute monarchy in France. All feudal privileges were abolished and the power of clergy was curbed. The Revolution united the people of different sections and paved the way for the enhanced power of the state. It also led to the growth of feelings of nationalism and the emergence of an assertive middle class.

Revolution upheld the theory of people' sovereignty and laid the foundation for the birth of liberal constitutional governments in Europe. Liberty, equality, and fraternity became the watchwords of freedom loving people all over the world and inspired many later day political movements for the establishment of liberal democracy in Europe and elsewhere.

SUMMARY

I The American War of Independence

- The foundation of European colonies in the wake of discovery of America and Britain's triumph over other European powers in bringing 13 colonies under its direct control are described.
- The burdensome taxation and colonial exploitative policies of England, depriving the colonies of their autonomy and independence are discussed.
- The proclamation of the colonists 'No Taxation without Representation' prompting England to declare war against the colonies is explained.
- The import of tea against the protest of colonies triggered a revolt in Boston leading to the outbreak of American War of Independence.
- The important battles at Lexington, Bunker Hill and York Town between the Colonists and the British forces are highlighted.
- The Continental Congress Meet in 1774 and the adoption of the Declaration of American Rights, as well as the Second Continental Congress giving the command of the army to George Washington are detailed.
- The surrender of Lord Cornwallis who commanded the British forces and the signing of the Treaty of Paris in 1783, that recognized the independence of the United States of America, are elaborated.

II The French Revolution

- The outbreak of French Revolution in the wake of summoning of Estates General by Louis XVI is explored.
- The privileged life of the nobility and the clergy is contrasted with the wretched conditions of peasantry, artisans and other sections of commoners who formed the Third Estate.

- The political, economic, and social causes for the outbreak of French Revolution are examined.
- The role of French Philosophers in creating consciousness and inspiring the revolutionaries to revolt against the unpopular monarchy is highlighted.
- The Tennis Court Oath of members of the Third Estate followed by events like storming of the Bastille and the historic march of women to Versailles are explained.
- Abolition of monarchy and feudalism as well as the confiscation of Church property with the declaration of rights of the people and proclamation of republic, thereby ending the monarchical system, are detailed.
- National Convention and its reign of terror under the dictatorial regime of Robespierre, the leader of the Jacobins Party, leading to split among revolutionaries are elaborated.
- The National Convention turning against Robespierre and sending him to guillotine is related.
- Setting up of Directory followed by Consulate and grabbing of power by Napoleon Bonaparte who later declared himself the French monarch are summed up.
- Though the rise of Napoleon marked the end of the revolution, the revolutionary ideals of 'Liberty, Equality and Fraternity' continued to inspire many later political movements and laid the foundation for the emergence of liberal democracy in Europe and elsewhere.

Timeline

5 May 1789	Meeting of the Estates General
17 June 1789	Third Estate becomes the National Assembly
20 June 1789	Tennis Court Oath
9 July 1789	National Assembly becomes the Constituent Assembly
14 July 1789	Storming of the Bastille
27 August 1789	Declaration of the Rights of Man and Citizen
5 & 6 October 1789	Paris mob marching to Versailles
20 & 21 June 1790	Flight of the King to Varennes
10 August 1792	Meeting of the National Convention
2 & 3 September 1792	September Massacres
21 January 1793	Execution of Louis XVI
27 July 1794	Execution of Robespierre

EXERCISE

I Choose the correct answer

1. The first British colony in America was _____ .

   a) New York
   b) Philadelphia
   c) Jamestown
   d) Amsterdam

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2. The pioneer of French Revolution who fought on the side of Washington against the British was _____ .

   a) Mirabeau
   b) Lafayette
   c) Napoleon
   d) Danton

3. Lafayette, Thomas Jefferson and Mirabeau wrote the _____ .

   a) Declaration of Independence
   b) Declaration of Pilnitz
   c) Declaration of Rights of Man and Citizen
   d) Human Rights Charter

4. The defeat of British at _____ paved the way for the friendship between France and America.

   a) Trenton
   b) Saratoga
   c) Pennsylvania
   d) New York

5. _____ was the symbol of "Royal Despotism" in France.

   a) Versailles Palace
   b) Prison of Bastille
   c) Paris Commune
   d) Estates General

6. The forces of Austria and Prussia were defeated by the French Revolutionary forces at _____ .

   a) Verna
   b) Versailles
   c) Pilnitz
   d) Valmy

7. *Candide* was written by _____ .

   a) Voltaire
   b) Rousseau
   c) Montesquieu
   d) Danton

8. The moderate liberals who wanted to retain Louis XVI as a limited monarchy were called _____ .

   a) Girondins
   b) Jacobins
   c) Emigres
   d) Royalists

9. American War of Independence was ended with the Peace of Paris in the year _____ .

   a) 1776
   b) 1779
   c) 1781
   d) 1783

10. Thomas Paine's famous pamphlet was _____ .

    a) Common Sense
    b) Rights of Man
    c) Bill of Rights
    d) Abolition of Slavery

II Fill in the blanks

1. The Postmaster General of the Postal Department of the government of Continental Congress was _____.
2. The battle of Bunker Hill was fought on _____.
3. The _____ Act insisted on repaying the debt in gold or silver.
4. The leader of National Assembly of France was _____.
5. _____ was guillotined for organizing a Festival of Liberty.
6. Louis XVI was arrested at _____ with his family when he tried to escape from France.

III Choose the correct statement

1. i) The Portuguese were the pioneers of naval expeditions.
   ii) New Plymouth was named after the Quaker Penn.
   iii) Quakers have the reputation of encouraging wars.
   iv) The English changed the name of New Amsterdam to New York.

   a) i & ii are correct
   b) iii is correct
   c) iv is correct
   d) i & iv are correct

2. i) The American War of Independence was as much a civil war as a war against the British.
   ii) The British forces emerged victorious in York Town.
   iii) The nobles in France were supportive of the rising middle class.
   iv) The British Parliament repealed the Townshend Act except the tax on paper.

   a) i & ii are correct
   b) iii is correct
   c) iv is correct
   d) i & iv are correct

3. **Assertion (A):** Merchants of Boston boycotted the British goods

   Reason (R): The British Finance Minister introduced new duties on imports into American colonies

   a) A is correct and R is not the explanation of A
   b) A is incorrect and R is not the explanation of A
   c) A is correct and R is the explanation of A
   d) Both 'A' and 'R' are incorrect

4. **Assertion (A):** There was a massive peasant revolt in the Vendee against conscriptions.

   Reason (R): The peasants as supporters of the king did not like to fight against him.

   a) Both A and R are incorrect
   b) Both A and R are correct
   c) A is correct and R is incorrect
   d) A is incorrect and R is correct

IV Match the following

1.	John Winthrop	–	France Finance Minister
2.	Turgot	–	July 4
3.	The Spirit of laws	–	Britain and France
4.	Marie Antoinette	–	Massachusetts Bay
5.	Seven years war	–	Louis XVI
6.	American Independence Day	–	Montesquieu

V Answer the following questions briefly

1. Who were Puritans? Why did they leave England?
2. What do you know about the Quakers?
3. Point out the significance of "the Boston Tea Party".
4. Attempt an account of "September Massacres".
5. Explain the composition of "Three Estates of France".
6. Sketch the role of Lafayette in the French Revolution.
7. What was the background for the storming of Bastille Prison?
8. What were the taxes the peasants had to pay in France on the eve of Revolution?

VI Answer the questions given under each caption

1. Townshend Act
   a) Who introduced this Act?
   b) In which year was this Act passed?
   c) Why did the colonists oppose the Act?
   d) Why did the merchants of Boston oppose British goods?
2. Social life in France
   a) What was the tax collected by the Church in France ?
   b) Who was Danton?
   c) Who were the Encyclopaedists of eighteenth century France?
   d) Who provided free labour for the construction of public roads?

VII Answer in detail

1. "Taxation without Representation" led to the outbreak of American War of Independence – Explain
2. Highlight the contribution of French Philosophers to the Revolution of 1789

VIII Activity

1. If any Government becomes bankrupt like the Government of Louis XVI, what measures do you think are required to overcome the crisis.
2. Attempt a comparative study of American War of Independence and Indian Independence Movement.

IX Assignment

1. Attempting an account of Bastille prison.
2. Reading the essence of *Les Miserable* (a historical novel by Victor Hugo)

GLOSSARY

manhunt	an organized search for a person	மனித வேட்டை
molasses	thick dark brown syrup obtained from raw sugar during the refining process	வெல்லப்பாகு
embossed	carved	பொறித்த
resentment	fury / anger	சீற்றம் / கோபம்
repealed	cancelled	நீக்கப்பட்ட / ரத்து செய்யப்பட்ட
dock	a structure extending along shore or out from the shore into a body of water, to which boats are moored	கப்பல் துறை
incorporated	included	இணைக்கப்பட்டுள்ள
impoverished	poverty stricken	வறிய நிலைக்கு ஆளாக்கப்பட்ட
vehement	forceful	தீவிர / உணர்ச்சி வேகமுள்ள
dogmatic	clinging to principles as incontrovertibly true / opinionated	வறட்டுச் சித்தாந்தப் பிடிப்பு
encyclopaedia	a book containing a set of articles on many subjects and arranged alphabetically	கலைக்களஞ்சியம்
emboldened	giving the courage or confidence to do something	துணிந்த
reconcile	to agree to	ஏற்றுக்கொள்ள
intriguing	puzzling	புதிராக
proponents	persons advocating a theory or a proposal	ஆதரவாளர்கள்
guillotine	a machine with a heavy blade used for beheading people	தலையை வெட்டும் இயந்திரம்

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ICT CORNER

THE AGE OF REVOLUTIONS

Through this activity you will know the States in their proper location on the map of United States of America.

Procedure

Step 1: Use the URL or scan the QR code to open the activity page.

Step - 2 Click the game icon to enter the game page

Step-3 Click the Place of States game

Step-4 Drag and put the States in their proper location on the map

Step1

Step2

Step3

Step4

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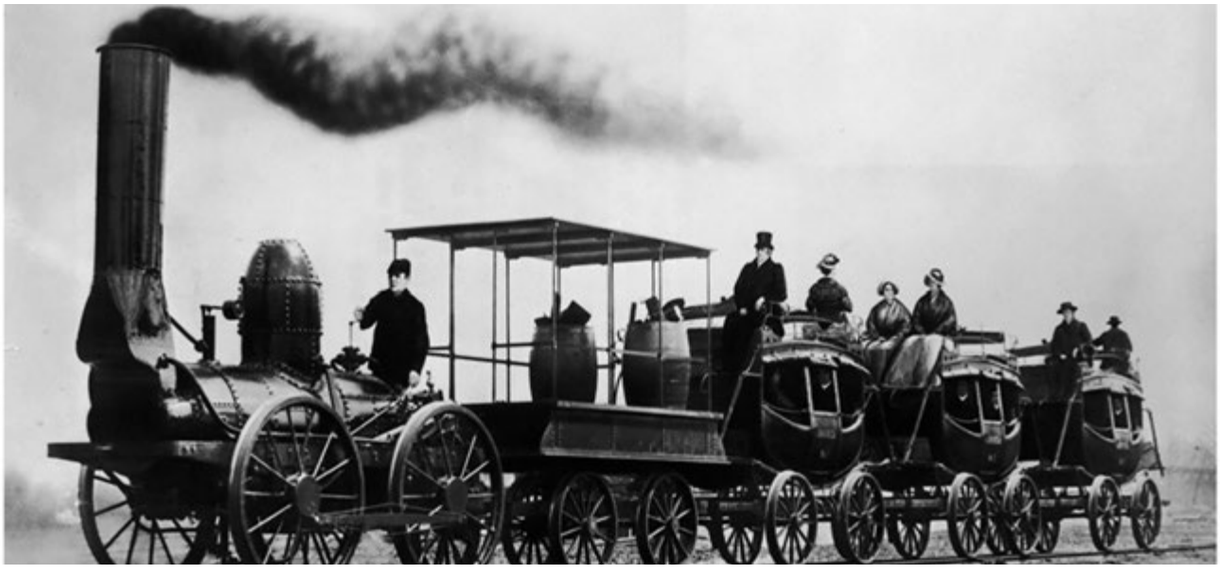
Pictures are as indicators only

UNIT 2

Industrial Revolution



Learning Objectives

To acquaint oneself with

- The essential features of Industrial Revolution in 18th century England
- Favourable Conditions prevailing in England for the Industrial Revolution
- Inventions that facilitated revolution in textile production
- Steel industry quickening the processes of industrialisation in England
- Rise of working class movement and its consequences in England
- Second Industrial Revolution in France, Germany and America
- Great Rail Road Strike and Hay Market Massacre in the US
- Impact of Industrial Revolution in India

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Introduction

In the latter half of the 18th Century major changes occurred in the method of production that changed the history of humankind. This profound transformation is described as the Industrial Revolution. Goods began to produced not by hand but by machines. This increased the volume of goods produced exponentially. The changes were not only economic but made a profound impact on society and politics. Society transformed from an agrarian and handicraft economy to one dominated by factory and machine-production. Starting in England first, it spread to other parts of the world. Although used earlier by French writers, the term *Industrial Revolution* was popularized by the English economic historians to denote Britain's economic development from 1760 to 1840.

2.1 Attributes of Industrial Revolution

The main attributes of the Industrial Revolution were technological, socio-economic and cultural.

- Use of new basic materials: iron and steel
- Use of new energy sources: coal, electricity, petroleum
- Invention of new machines such as the spinning jenny and the power loom that increased the production with a minimum expending of human energy
- Emergence of a new organization known as the factory system, which entailed increased division of labour and specialisation of work
- Development in transportation and communication
- Increasing application of science to industry
- The use of new technology

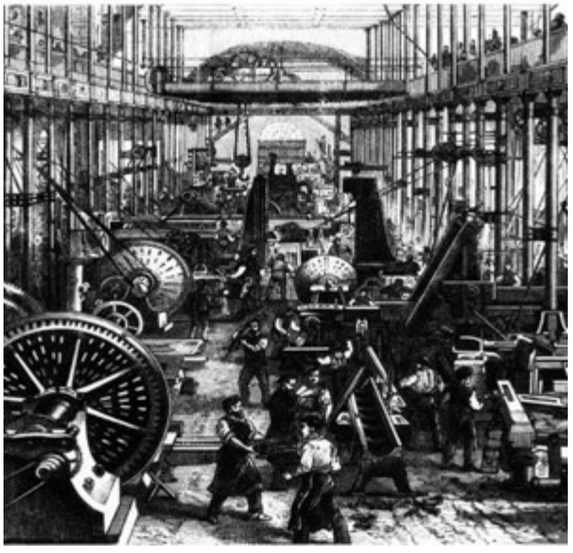
Beginnings

The Industrial Revolution began in England first because, it had certain objective conditions. They were:

- England had abundant resources and possessed colonies, with India being "the brightest jewel in the British Crown"
- Access to coal, iron and raw cotton from the colonies
- England possessed the required infrastructure for textiles, developed by immigrant artisans from the Netherlands
- England had a developed banking system, a growing entrepreneurial class, and potential investors
- Encouragement of the Royal Society of England for scientific discoveries and inventions
- Political stability of England to bestow its full attention to industrial growth

Invention of Steam Power

In the 18th Century, British mine-owners were faced with the problem of water seeping into the mines. Water had to be removed to extract coal. So they employed labourers to pump the water out. Employing human labour cost a lot of money. It was at that juncture the British engineer, Thomas Newcomen invented a contrive to pump the water out of mines. But the mechanism he developed consumed too much fuel. James Watt, a Scottish engineer, converted a stationary steam engine to a rotary engine which consumed less fuel.



A scene in an English factory

Development in Textiles

Before the Industrial Revolution, the spinning and weaving of cloth were undertaken for domestic and local consumption. It was done at home or in a small hired place. The production

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also took place on a cottage scale. The manually operated spinning wheel required four to eight spinners to supply yarn to one handloom weaver. In 1733 John Kay invented the 'Flying Shuttle' which, when operated by hand, increased the speed of the weaving of cloth. In 1767 James Hargreaves invented 'the spinning jenny'. This machine spun eight threads at one and the same time. Two years later Richard Arkwright invented the 'waterframe'. This spinning frame used water power in the place of manpower. The 'waterframe' was too big to be run at home. Thus was born the factory. In 1779 Samuel Crompton invented his 'spinning mule' which included a combination of both the 'spinning jenny' and the 'water frame'. It spun hundreds of threads simultaneously and produced eight fine and coarse threads. Eli Whitney invented the cotton gin in 1793. Removing the seed from the cotton increased the productivity manifold. Cotton spinning powered by steam increased the output of a worker by a factor of around 500.

John Kay

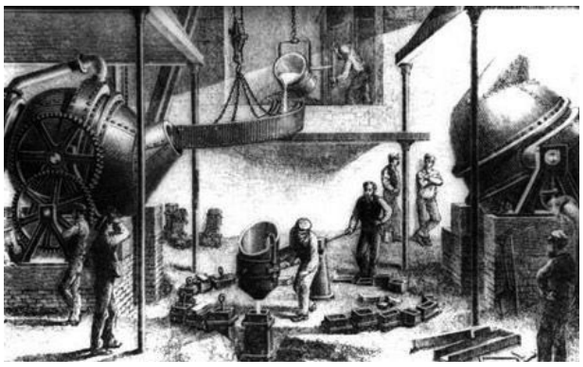
James Hargreaves

Textile manufacture was at the heart of the Industrial Revolution. Over a span of fifty years, the textile manufacturing industry in Britain witnessed a transformation in the method of production from handmade to machine-made goods. The newly invented machines enabled factories to produce textile goods in large quantities. Derbyshire, Lancashire, Cheshire, Staffordshire, Nottinghamshire, and Yorkshire became the major factory centres. The most notable was Manchester which had more than 50 mills in 1802. These factories involved in mass production were organized on the principle of division of labour.

Lancashire

Iron and Steel

Iron and steel helped quicken the process of Industrialisation. In olden days iron ore was smelted in brick furnaces. Charcoal was used as fuel. The iron produced was not sturdy and strong. It had to be smelted again. Finally coke (produced from coal) was used to produce iron. But this was a costly method. The cast iron blowing cylinder was later improved by making it double acting, which allowed higher blast furnace temperatures. The rolling mill (machine for rolling steel or any other metal into sheets) proved to be fifteen times faster than hammering wrought iron. Hot blast greatly increased fuel efficiency in iron production. In 1856, Henry Bessemer discovered a faster and cheaper method of producing steel. In course of time, iron and steel came to be used in making all machines and in all industries.



Iron and steel industry

Mining

Industrial Revolution required fuel. Coal was needed in vast quantities. Before the Industrial Revolution, two types of mines existed: drift mines and bell pits. Both were small scale coal mines and the extracted coal was used in homes and local work spots. As industrialisation gained pace, more and more coal was needed to fuel steam engines and furnaces. The development of factories by Arkwright and the improvement of the steam engine by James Watt further increased demand for coal. As a result, coal mines became deeper and deeper, making it more and more dangerous. As miners used oil lamps in the mines the risk of explosion was high leading to the death of miners. This was reduced by the invention of a safety lamp by Sir Humphrey Davy in 1815.

The coal production in England increased from 4.7 million tonnes in 1750 to 250 million tonnes in 1900.

Coal mines

Transportation and Communication

Industrial Revolution was dependent on good transportation. As production increased raw materials had to be brought from afar to the factories. After the goods were produced they had to be transported to the markets. As a result new networks of canals, roads and railroads were built. Macadamised roads and George Stephenson's steam locomotive helped to improve road and railway transport system in the country.

John Loudon McAdam was a pioneering Scottish Engineer who single-handedly changed the way *roads* were built around the world. Macadamised road came to be adopted world over.

The railways date back to sixth century B.C. (BCE) in Corinth, Greece. They were man or animal driven. In the sixteenth century Germany had horse-powered rail transport. Modern rail transport commenced with the British development of the steam locomotives in the early 19th century. The first railway line in England was opened between Stockton and Darlington in 1825. In the next forty years15000 miles of railway network was completed. Robert Fulton of the US invented the steamboat called Clermont in 1807 that sailed from New York to Albany, covering 150 miles. After a few years, steamboats carrying cargo shuttled on the rivers and coastlines. By 1830, the 40 miles between Manchester and Liverpool could be covered in an hour and a half.

The railways

2.2 Effects of Industrial Revolution in England

Industrial Revolution led to the expansion of trade, the production of more food, emergence of factory workers as a new class. The rise and growth of cities resulting in rapid urbanisation and organised working-class movements, seeking voting rights and regulation of their service conditions, brought about a new dynamics in politics.

Impact on Environment and Living Conditions

The use of chemicals and fossil fuels that replaced wind, water and firewood resulted in increased air and water pollution. The Industrial Revolution marked a major turning point in earth's ecology and humans' relationship with the environment.

The Industrial Revolution helped create opportunities for employment for all members of the family. However, the life for the labouring class was miserable. Children were employed in textile mills because they worked for lower wages. In 1842, the British Parliament published a report about the state of coal mining – the Mines Report – and the report informed the public that children under five years of age worked underground as trappers for 12 hours a day and for a daily wage of 2 pennies; older girls carried baskets of coal which caused deformities.

Safety was very poor in early industrial factories and mines. The injuries from machinery would vary from mild burns, arm and leg injuries, to whole fingers to be cut off, or amputation of limbs and even death.

The housing was tiny, dirty, and sickly for the labouring class. Workers had no time to clean or change their own atmosphere even if they wished to, leading to the outbreak of typhoid, cholera, and smallpox.

With no legislation to monitor the service conditions workers had few rights. Working conditions were harsh with no weekly holidays or leave for sickness. With low wages the entire family had to work in factories.

Urbanisation

With the advent of the Industrial Revolution, England became the workshop of the world. There was however a general decline in agriculture. This resulted in the flow of population from villages to industrial towns. Population growth, migration and urbanisation were the major social changes taking place during this period. In pre-industrial society, over 80% of people lived in rural areas. As the migration from the countryside began to intensify, small towns became large cities. The city of London grew from a population of two million in 1840 to five million in forty years.

Manchester's cool climate was ideal for textile production. Further it was situated close to the port of Liverpool and the coalfields of Lancashire. Manchester became the textile capital of the world, drawing huge numbers of migrants to the city. In 1771, Manchester was a sleepy town of 22,000 people. Over the next fifty years, its population exploded and reached 180,000.

Population growth and Urbanisation

Socio-economic Consequences

While the peasants were pauperized and the working class suffered, the middle class became wealthy by investing capital in trade and industry. The governments of the day

were influenced by them. All legislations safeguarded their interests. Labourers were not permitted to form trade unions. It was under these circumstances that Socialism as a new ideology was born in Europe. Karl Marx advocated scientific socialism for the protection of the working class from the exploitative policies of the capitalist class. By the latter half of the nineteenth century there were strong working class movements all over western Europe which demanded economic as well as political rights.

Labour Movement

Combination Laws of 1799 prohibited the formation of associations of workers. In the early decades of the nineteenth century there were Luddites. Fearing the loss of jobs due to the introduction of machines, Luddites protested by wrecking machines. The Combination Laws were repealed in 1824. Yet the workers could not form a national union. The Reform Bill of 1832 granted voting rights only to the propertied middle class. Frustrated by this, the working class in a large gathering prepared a charter of demands and obtained signatures from millions of fellow workers. The charter was presented to the House of Commons (the English Lower house in the Parliament, England). Known as Chartism, this working class movement was active between 1836 and 1848. The Chartists called for voting rights to every man over twenty-one years of age, secret ballot (voting), abolition of property qualification for members of the parliament, annual parliamentary elections and equal representation.

Chartist Movement, England

2.3 Spread of Industrial Revolution

Industrial Revolution in France

France did not possess as much natural resources as England. The political instability caused by the French Revolution and the prolonged Napoleonic Wars wrecked the country. Many of those French businessmen who had sought refuge in Britain during the Revolution, on their return to France after Napoleonic Wars, used British technology. This helped to accomplish industrial revolution in their country. The adoption of British-made spindles led to a two-fold increase in French textile production during 1830-1860.

Francois de Wendel

The Francois de Wendel family brought British technology to Lorraine. The family introduced steam engine in coal mining and puddling kilns for iron smelting. By the 1860s the de Wendel family employed over 10,000 workers. By diversifying its business, it entered other heavy industries such as railroad construction and shipbuilding.

The town of Mulhouse in the province of Alsace rose to prominence for its dyes that brought many designers there. From this foundation, Mulhouse diversified into the growing heavy industry of the region and became prominent as a maker of machines. Saint-Chamond saw developments in iron production. In 1820, the British technology of refining cast iron began to be used in this town.

In 1832, the first French railroad, St. Etienne–Andrezieux line was opened. Numerous railroad lines followed. By the end of the nineteenth century France had

become prominent for its automobiles. The two biggest automobile companies of today's France were started in 1891. Arman Peaugot produced his first batch of automobiles. In 1898, Louis Renault built the *quadricycle*, from which he began to produce in large quantities under his company, the *Societe Renault Freres* (Company Renault Brothers)

Old model Renault cars

In 1806, agriculture employed about 65.1% in France. It decreased to 42.5% in 1896. During the same period industries had grown in its share of employment from 20.4% in 1806 to 31.4% by 1896.

Industrial Revolution in Germany

Germany had the natural resources required for an industrial revolution. Large coal reserves were located in the areas of Saar, Ruhr, Upper Silesia, and Saxony. Iron was deposited in the areas of Erzgebirge, Harz Mountains, and Upper Silesia again.

Germany's main challenge was its feudal socio-political structure, perpetuating the practice of serfdom and their unhelpful licensure policies for establishing factories. In addition, only two major ports, Bremen and Hamburg, had clear and secure access to the North Sea. But the most significant challenge to Germany's industrial revolution was its political setup. Before 1871 Germany was made of numerous German states with Prussia being the biggest.

Prussia controlled the major manufacturing towns, coalfields, and trade routes. The state played an active role in the recovery and industrial growth of Prussia. Prussia evolved a new tariff system after the Napoleonic era. Accordingly, Zollverein Customs Union, comprising neighbouring German provinces, imposed tariffs on imported manufactured goods and overseas colonial goods. At the same time, it allowed free trade among provinces. This measure opened a wider market and new sources of raw materials. Without the Zollverein an industrialised and unified Germany would not have been possible.

Besides the Zollverein, financial institutions and cartels helped the industrial growth of Prussia and the other German States. Banks provided capital and investments to new companies. Cartels on the other hand provided protection and stability. In other countries like Great Britain and the United States, cartels were resented for their anti-competitive and unfair business practices. But the Germans saw cartels as providing for the growth of small industries. It spared them from sometimes unprofitable and self-destructing price wars. It also provided protection in cases of price fluctuations and the entry of foreign competition.

Cartel is an association of manufacturers or suppliers with the purpose of maintaining prices at a higher level and of restricting competition.

Railroads served Germany well in its industrial development as also in its Unification. The first railroad line opened on December 1835 and ran between Nuremberg and Furth. The private sector took the initiative in constructing railroads. But when capital became scarce, the state intervened and in some provinces, nationalized the industry. In Prussia, the government took a leading part and joined the private sector in laying out networks of railroad. In 1842, the Prussian government created the Railway Fund in order to finance railroad construction project. In Prussia, Berlin became a centre of the railroad network. Railroads connected the members of the Zollverein and made trade and commerce more vibrant.

With the use of steam engines, the number of factories in Prussia grew from 419 in 1837 to 1,444 in 1849. The production of coal increased from one million ton in 1820 to over 6 million in thirty years. From 46,000 tons of iron produced in 1810, iron production rose to 529,000 tons by 1850. Railroads increased from 3,638 miles in 1850 to a distance of 11,600 miles in 1870.

In 1871, Prussia finally united Germany. Germany emerged as the most industrialised country by the end of the 19th century. Germany surpassed the home of the industrial revolution, Great Britain, and proved a competitor to the United States. In electrics, Germany offered companies like Siemens. In chemicals, Germany excelled in the production of potassium salt, dyes, pharmaceutical products, and synthetics. Companies like Bayer and Hoechst led the chemical industry of Germany. Germany became a leader in automobile industry. Daimler and Benz became the most popular brands of automobiles in Germany and the world.

Daimler Company

2.4 Second Industrial Revolution in United States of America

A shift from manual labour-based to more technical and machine-based manufacturing industry marked the Industrial Revolution in the United States. Samuel Slater, a citizen of England, having worked at a cotton mill from age 10, had gained enough experience to operate a mill. On learning that Americans were interested in the new techniques, Slater departed for New York in 1789 illegally. Slater offered his services to Moses Brown, a leading Rhode Island industrialist, who had earlier made an unsuccessful attempt to operate a mill. Brown agreed and in consequence the mill became operational in 1793, being the first water-powered roller spinning textile mill in the Americas. By 1800, Slater's mill had been duplicated by many other entrepreneurs as Slater grew wealthier and his techniques more and more popular. Andrew Jackson, the U.S. President hailed him as "Father of the American Industrial Revolution."

Samuel Slater

Andrew Jackson

The United States in the nineteenth century began to show technological innovation. Robert Fulton established the steamboat service on the Hudson River. Samuel F.B. Morse's invention of the telegraph and Elias Howe's invention of the sewing machine came before the Civil war (1860–1865).

In 1846, an American, Elias Howe invented the 'sewing machine' to stitch clothes. With the invention of new methods of bleaching, dyeing and printing, cloth with different colours could be produced during the early half of 19th century.

After the Civil War, industrialisation went on at a frantic pace. In 1869, the first transcontinental railroad was completed to transport people, raw materials and products. There was unprecedented urbanisation and territorial expansion in the US. As a result, between 1860 and 1900, fourteen million immigrants came to the country, providing workers for a variety of industries. The invention of electric bulb by Thomas Alva Edison (1879) and telephone by Alexander Graham Bell (1885) changed the world beyond recognition.

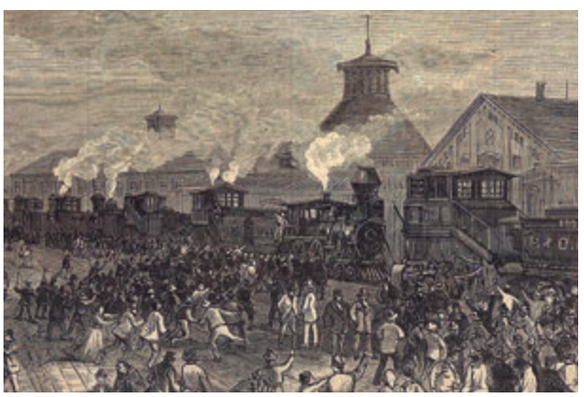
Andrew Carnegie established the first steel mills in the U.S for mass production. He acquired business interests in the mines that produced the raw materials for steel, the mills and ovens that created the final product and the railroad and shipping lines that transported goods, thus controlling every aspect of the steelmaking process. John D. Rockefeller merged the operation of many large companies to form a trust. His Standard Oil Trust came to monopolise 90% of the industry and reduced competition. These monopolies affected the smaller companies and even threatened them. The U.S. government supported the industrial growth by providing land for construction of railroads and protected the American industry from foreign competition.


John D. Rockefeller

The Industrial Revolution quickened the process of the transition of the United States from a rural to an urban society. Young people raised on farms saw greater opportunities in the cities and moved there, as did millions of immigrants from Europe. Providing housing for all the new residents of cities was a problem, and many workers found themselves living in urban slums; open sewers ran alongside the streets, and the water supply was often contaminated, causing disease.

2.5 Working Class Strikes

The difficult working conditions in the factories, long hours of work, low wages, exploitation of women and children contributed to the growth of labour unions. After the Civil War, workers organized strikes. One major strike was the Great Railroad Strike of 1877. Wage cuts in the railroad industry, in the context of a prolonged economic depression, led to the strike, which began in West Virginia and spread to three additional states over a period of 45 days before being crushed by a combination of vigilantes, National Guardsmen, and Federal Army.


Railroad Strike of 1877

Haymarket Massacre

A labour protest took place on 4 May 1886, at Haymarket Square in Chicago. What began as a peaceful rally in support of workers striking for an eight-hour day resulted in the killing of several workers by the police. To commemorate the Haymarket Affair 1 May 1887 is observed as the Labour Day or May Day or International Worker's Day.

GIDLS7

Haymarket Massacre

In India, Labour Day was first celebrated on May 1, 1923 in Chennai. The celebrations were organised by the Labour Kisan Party of Hindustan, founded by M. Singaravelu, one of the early leaders of the Communist Party of India.

Triumph of Labour statue, Chennai

2.6 Important Inventions of the Industrial Revolution Era

Inventions	Inventor	Year
Blast Furnace (Iron & Steel)	Abraham Darby	1709
Steam Engine	Thomas Newcomer	1712
Flying Shuttle (Textiles)	John Kay	1733
Improved Darby Process (Iron & Steel)	John Smeaton	1760
Spinning Jenny (Textiles)	James Hargreaves	1764
Spinning Frame (Waterframe) (Textiles)	Richard Arkwright	1769
Newcomen's Steam Engine Redesigned	James Watt	1769
Spinning Mule (Textiles)	Samuel Crompton	1779
Power Loom (Textiles)	Edmund Cartwright	1785
Cotton Gin (Textiles)	Eli Whitney	1793
Air Pump (in Mines)	John Bundle	1807
Puffing Devil (the first steam powered locomotive)	Richard Trevithick	1801

The Butcher (Locomotive)	George Stephenson	1814
Safety Lamp (for Mining)	Humphrey Davy	1815
Sewing Machine (Textiles)	Elias Howe	1846
Telegraph; Morse Code (Communication)	Samuel Morse	1844
Cheaper method of Making Steel (Iron & Steel)	Henry Bessemer	1856
Telephone	Alexander Graham Bell	1876
Wireless Signals (Communication)	Marconi	1899
Incandescent Electric Bulb	Thomas Alva Edison	1888

2.7 Impact of Industrial Revolution in India

Until the middle of eighteenth century, England was an agricultural country and India was known for its excellence in manufactures as well as in agriculture. In the first quarter of eighteenth century, in the context of Indian cotton manufactures flooding in England, a law was enacted prohibiting the use of Indian calicoes and silks. The invention of flying shuttle by John Kay and the inventions of Hargreaves, Arkwright and Crompton within thirty years accelerated the process of spinning and weaving. When the British established their foothold in Bengal as a territorial power, the loot from Bengal and the Carnatic provided the required capital and helped accomplish Industrial Revolution in England. The weavers of Bengal suffered at the hands of the Company's officials and their agents, who first insisted on payment of a transit duty for the commodities they carried from one place to another and later for cultivation of commercial crops required for British industries in England. The English deliberately destroyed Indian industry by dumping the Indian markets with their machine-made cheap cotton piece goods. Because of loss of market for hand-woven cotton goods, India lost her old industrial position and became an exporter of raw material.

By the first quarter of nineteenth century the export of Dacca muslin to England stopped. Even the export of raw cotton from India had steadily dwindled owing to the competition from USA. Weavers who were eking out an independent livelihood were thrown out of employment because of flooding of British factory-made cheap cotton fabrics in Indian markets.

The Collector of Madurai reported that families of about 5000 weavers did not have the means to take more than one meal of rice a day. The Collector of Tirunelveli observed that the weaving population has 'outrun its means of subsistence and trammels of caste prevent them from taking to other work.' Millions died of starvation in famines. To escape starvation deaths, peasants and artisans had to move out of the country opting to working on plantations in British Empire colonies as indentured (penal contract) labourers under wretched service and living conditions.

SUMMARY

- The main attributes of Industrial Revolution are presented
- Reasons for Industrial Revolution taking place first in England are explained
- Inventions leading to development in textiles are discussed
- Use of iron and steel leading to mechanisation of all industries and the rapid changes in transport and communication are detailed
- Impact of Industrial Revolution on environment and living conditions are highlighted
- Spread of Industrial Revolution in France, Germany and America are dwelt at length
- Labour movement and the repressive measures of the state in the US are particularly focused to demonstrate that the rights of working class were obtained after struggles and sacrifices

EXERCISE

I Choose the correct answer

1. Who established the first steam boat service?
   a) Arkwright
   b) Samuel Crompton
   c) Robert Fulton
   d) James Watt

2. Why was Manchester considered ideal for textile production?
   a) availability of land
   b) rich human resources
   c) better living condition
   d) cool climate

3. Who invented the sewing machine?
   a) Elias Howe
   b) Eli–Whitney
   c) Samuel Crompton
   d) Humphrey Davy

4. Which family introduced steam engine in France?
   a) de Wendel
   b) de Hindal
   c) de Arman
   d) de Renault

5. Who called Slater, the father of American Industrial Revolution?
   a) F.D. Roosevelt
   b) Andrew Jackson
   c) Winston Churchill
   d) Woodrow Wilson

6. Which of the following is observed to commemorate the Hay Market Massacre?
   a) Independence Day
   b) Farmers Day
   c) Labour Day
   d) Martyrs Day

7. Where was Zollverein Customs Union formed?
   a) England
   b) Germany
   c) France
   d) America

8. Who produced the first batch of automobiles in France?
   a) Louis Renault
   b) Armand Peugeot
   c) Thomas Alva Edison
   d) McAdam

9. What was the invention that removed seeds from cotton?

a) Rolling Mill
b) Cotton Gin
c) Spinning Mule
d) Spinning Jenny

10. Which of the following was used as fuel in olden days to smelt iron?

a) Coke
b) Charcoal
c) Firewood
d) Paper

GIMHTU

II Fill in the Blanks

1. _____ called for voting rights to men in England.
2. _____ changed the way roads were built around the world.
3. _____ discovered a faster and cheaper method of production of steel.
4. _____ advocated scientific socialism.
5. The first railroad line started in Germany was in the year _____.

III Match the following

1.	Benz	-	U.S.A
2.	Safety Lamp	-	Louis Renault
3.	Quadricycle	–	Humphrey Davy
4.	Great Railroad Strike	–	Lancashire
5.	Coalfield	–	Germany

IV Find out the correct statement

1. i) British mine–owners were faced with the problem of water seeping into their mines
   ii) Employing human labour was cheap for this work
   iii) Newton invented a steam engine to pump water out of mines
   iv) Water had to be removed to get coal in mines

   a) (i) is correct
   b) (ii) and (iii) are correct
   c) (i) and (iv) are correct
   d) iii) is correct

2. i) Trade Unions were formed by labourers to get their rights
   ii) Germany's political setup was the most significant challenge for the industrial revolution
   iii) To protect capitalists Karl Marx advocated socialism
   iv) There were no natural resources in Germany

   a) (i) is correct
   b) (ii) and (iii) are correct
   c) (i) and (iv) are correct
   d) iii) is correct

3. **Assertion (A):** Workers had rights to get holidays.
   Reason (R): There were laws to protect the workers.

   a) A is correct R is wrong
   b) Both A & R are wrong
   c) Both A and R are correct
   d) A is correct R is not correct explanation of A

4. **Assertion (A):** Slater was called the Father of the American Industrial Revolution.
   Reason (R): His spinning textile mill was duplicated and his techniques became popular.

a) A is correct and R is the correct explanation of A

b) A is wrong and R is the correct explanation of A

c) Both A and R are wrong

d) Both A and R are correct

V. Answer all the questions given under each caption

1. Labour Movement

   (a) Which Act prohibited the formation of associations of workers?

   (b) Name the Bill which granted voting rights to propertied middle class?

   (c) When were the Combination Laws repealed?

   (d) What were the demands of the Chartists?

2. Transportation and Communication

   (a) Which was the first railway line opened in England?

   (b) How were the produced goods transported to markets?

   (c) How was the steamboat invented in the US called?

   (d) Who sailed from New York to Albany?

VI Answer the following questions briefly

1. What was the condition of labourers' houses during Industrial Revolution?
2. Account for urbanisation in England
3. Attempt a note on Haymarket Massacre
4. What do you know of Louis Renault?
5. Highlight any two important results of Industrial Revolution.

VII Answer in Detail

1. Enumerate the causes for the Second Industrialization in the USA.
2. What were the effects of Industrial Revolution of England on India?

VIII Activity

1. Organize a debate on the positive and negative aspects of Industrial Revolution.
2. Prepare a list of fabrics and designs and the places of production in India.

IX Assignment

1. Collect the pictures of the inventions made at the time of Industrial Revolution.
2. Write an assignment on the modern plastic road being made by used-plastics.

GLOSSARY

entrepreneurial class	a group characterised by the taking of financial risks in the hope of profit	தொழில் முனைவோர் வர்க்கம்
deformities	defects / abnormalities	குறைபாடுகள்
migrants	persons who moved from one place to another in search of livelihood or for settlement	புலம் பெயர்ந்தோர்
pauperized	impoverished	வறியவர்களாக்கப்பட்டோர்
tainted	imperfect	களங்கமுற்ற
frustrated	expressing feelings of despair	விரக்தியடைந்த
perpetuating	keeping alive, continuing indefinitely	தொடர்ந்து கொண்டிருக்கும்
cartel	a monopolistic association of manufacturers	சர்வாதீனக் கூட்டமைப்பு
scarce	insufficient for the demand	கிடைப்பருமை / பற்றாக்குறை
commemorate	celebrate the memory of a person or an event	ஒரு நபர் அல்லது நிகழ்வு நினைவாகக் கொண்டாடு
dwindle	diminish gradually in size	அளவில் குறைதல்

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WEB RESOURCES

1. Encyclopaedia Brittanica

ICT CORNER

INDUSTRIAL REVOLUTION

Through this activity you will know about the world historic events through interactive timeline.

Procedure

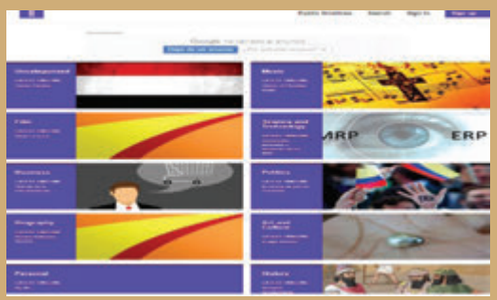
Step – 1 Open the Browser and type the given URL (or) Scan the QR Code.

Step – 2 Click Search option and enter any Timeline (Ex. Industrial Revolution)

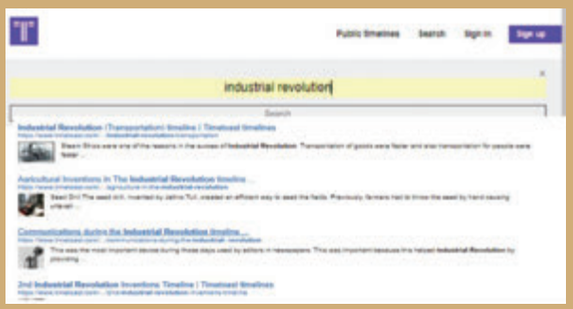
Step-3 Click on full screen mode

Step-4 Explore the Timeline events with pictorial descriptions.

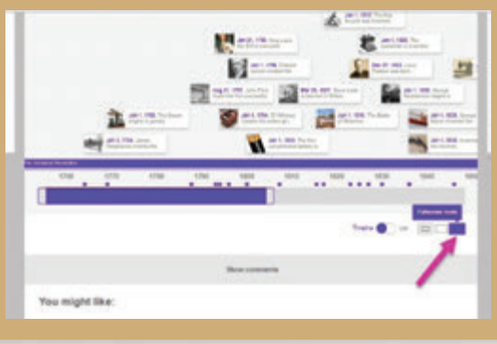
Step1



Step2



Step3



Step4

URL:

https://www.timetoast.com/categories (or) scan the QR Code

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Pictures are as indicators only

UNIT 3

Colonialism in Asia and Africa

Learning Objectives

GIWDVH

To acquaint oneself with

- The territories forming South East Asia
- Establishment of colonies by the Portuguese, the Spanish, the Dutch, the French, the British and the Americans
- Impact of colonisation on the Malayan Peninsula, Indonesia, Burma, Indo-China, Philippines
- Conquest of Africa, and the colonial regimes of the Dutch, the British, the Portuguese, the Germans, and the Belgians
- British colonisation of India and colonial control of Indian economy
- Economic impact of British rule in India

Introduction

Colonialism is a process of domination, involving the subjugation of one people by another. Like colonialism, imperialism, also involves political and economic control over a dependent territory. The Stanford Encyclopaedia of Philosophy differentiates the two as follows: The term colony comes from the Latin word *colonus*, meaning farmer. This root indicates that the practice of colonialism usually involved the transfer of population to a new territory, where the arrivals lived as permanent settlers while maintaining

political allegiance to their country of origin. Imperialism, on the other hand, (from the Latin term *imperium*, meaning to command) draws attention to the way one country exercises power over another, whether through settlement, sovereignty, or indirect mechanisms of control.

In world history, no continent possessed so many colonies and justified their access to the world by means of a civilising mission as did modern Europe. Practically the whole non-Western world was under one European power or the other for about four centuries until decolonisation happened after World War II.

Unable to reconcile the ideas of justice and natural law with colonial practice, especially the sovereignty of Europeans over non-Westerners, some political philosophers defended colonialism and imperialism arguing that their action was a civilizing mission. The rationale was that a temporary period of political dependence or tutelage was necessary for "uncivilized" societies to advance to the point where they would be capable of sustaining liberal institutions and self-government. This is captured by the phrase, 'The Whiteman's Burden' in a poem by Rudyard Kipling. However, many Enlightenment thinkers contested the idea of Europe's civilizing mission and condemned it as a justification for economic exploitation.

In this lesson we discuss the colonisation of South East Asia, Africa and India by European powers.

3.1 Colonisation of Asia (South East Asia)

South East Asia

The term "South East Asia" has only been used since the Second World War. It denotes the area that originally covered Malaya, Dutch East Indies, Burma, Siam, French Indo-China and the Philippines. With the exception of Siam (Thailand), which remained independent, the area was divided between the Dutch, the British and the French.

Malayan Peninsula

When European traders crossed the Indian Ocean at the close of the 15th century, they came for the spices of south-east Asia. When the Portuguese conquered the great international emporium of Malacca for the king of Portugal, the empires of Srivijaya and Majapahit had split into many small states. Albuquerque, the Portuguese soldier who conquered Goa and Malacca, and his successors were interested in the spice trade. Towards this end they built a chain of fortified trading stations linked by naval power. Initially they did not interfere with the native rulers. After the arrival of the Dutch and the English there was a challenge to the presence of Portuguese and the rivalry of these three European powers dominated the seventeenth century.

Albuquerque

The Dutch began their conquest of the Portuguese settlements by capturing Malacca in 1641. After establishing a base at Batavia (now Djakarta) in 1619, they interfered in succession disputes among the neighbouring sultans. Gradually they

extended their control over Java, expelling the British from Bantam in 1682. They had already driven them out of the Spice islands after the Massacre of Amboina (1623) and by the seizure of Macassar (1667), thereby forcing the English East India Company to turn to the China trade. The Spanish established themselves, beginning from their conquest of Manila, which expanded into a larger territory of Spanish East Indies.

Anglo-Dutch Rivalry

Penang Island had been brought to the attention of the East India Company by Francis Light. In 1786, the settlement of George Town was founded at the north eastern tip of Penang Island; this marked the beginning of British expansion into the Malay Peninsula. In 1819, Stamford Raffles established Singapore as a key trading post for Britain in their rivalry with the Dutch. However, their rivalry cooled in 1824 when an Anglo-Dutch treaty demarcated their respective interests in Southeast Asia. By 1826 Singapore and Malacca had been linked with Penang to form the Strait Settlements.

Singapore in 19th century

Between 1874 and 1895 there was a civil war between the remaining five Malay States. The British intervened and signed an agreement with each of the sultans. British Residents were appointed to the courts of sultans, who had to act in accordance with the advice given by the Residents. In 1896 four of the states were formed into the Federated Malay States. In 1900 there were the Straits Settlements, the four Federated Malay States and Johore. The population was about a million, of whom, half were Malay and the remainder were Chinese. Most of the merchants, planters and workers in the ports and big plantations were Chinese. Economically Malaya was prosperous.

Indonesia

The Dutch had occupied Java and Sumatra (Indonesia) as early as 1640. But they conquered the other outer islands of East India only in the second half of the nineteenth century, excepting the British possession of North Borneo, Brunei and Sarawak. Initially the Dutch were not interested in politics but focused on exploiting Indonesia ruthlessly. But from the beginning of the twentieth century they adopted measures for the social and economic advance of the people they governed. Most Indonesians were fishermen and small peasants and worked on European sugar, tobacco, tea, coffee plantations. Heavy investments in these plantations and other concerns, and the discovery of oil in 1900 made Indonesia a valuable colony for the Dutch.

Burma

The British conquered Burma after fighting three wars. Burma remained part of India from 1886 to 1937. Burma was administered by a Lieutenant Governor with the assistance of a nominated Legislative Council. Burma teak was shipped overseas. In addition, Burma with its rich soil became a big exporter of rice and most of south India was dependent on

Burmese rice. During World War II when Burma fell to the Japanese, south India experienced acute scarcity of rice leading to a famine.

Indo-China

The French conquered Indo-China after strong resistance from the people. Starting in 1858, they brought the Indo-Chinese Union under their control by 1887. Indo-China consisted of Annam, Tongking, Cambodia and Cochin-China. Laos was added six years later. Of them only Cochin-China was directly under French control, i.e., as a French colony. The remaining four were protectorates. Under this system, the local rulers remained, but they governed under the instructions of French Residents. Hanoi was the capital of the French government. Rice, rubber and wheat were the main exports. Laos remained undeveloped.

French in Indo-China

The Philippines

Spain ruled the Philippines for over 300 years, imposing its language, culture and religion. Consequently the population became predominantly Roman Catholic. Nationalism developed among the Filipinos during the latter part of the nineteenth century. There were two serious revolts in 1872 and 1896, which were crushed by the Spanish colonial government. In 1898, however, Spain was defeated by the United States in a war over Cuba, and as a result Philippines became an American colony.

Spanish in Philippines

Siam (Thailand)

Thailand was spared the experience of foreign rule, though it too was greatly affected by the power politics of the Western powers. The administrative reforms of the late 19th century, continuing up till around 1910, imposed a Westernised form of government on the country's partially independent cities called *Mueang*. Western powers, however, continued to interfere in its internal and external affairs.

3.2 Colonisation of Africa

Until the last quarter of nineteenth century, Africa south of the Sahara (Sub-Saharan Africa) was almost unknown to the outside world. The interior of Africa was unexplored. After 1875, European penetration and colonisation began on a large scale. The Berlin Colonial Conference of 1884-85 resolved to divide Africa into spheres of influence of the various European powers. European colonisation of Africa was thus accomplished smoothly, without any outbreak of war amongst major European powers. The invasion, occupation, colonisation and annexation of African territories by European powers between 1881 and 1914, the era

of Imperialism, is called the Scramble for Africa or the Partition of Africa.

The Berlin Conference of 1884–85, also known as the Congo Conference or West Africa Conference, met to decide all issues connected with the Congo River basin in Central Africa. The conference proposed by Portugal to discuss its claim to control the Congo river basin was rejected. The general act of the Conference of Berlin declared the Congo River basin to be neutral and guaranteed freedom for trade and shipping for all states in the basin.

South Africa

In South Africa the British possessed Natal, Cape Colony, while the Dutch (locally known as the Boers) held the states of the Transvaal and Orange Free State. In 1886 the discovery of gold in the Transvaal led to a large number of British miners settling in and around Johannesburg. The Boers feared and hated the miners whom they called *Uitlanders* (foreigners). In 1890, Cecil Rhodes, the Prime Minister of Cape Colony, encouraged British expansion to the north of the Transvaal. This worsened the relations between the Boers and the British. Denied of their political rights the British miners revolted. This led to the Boer War which lasted three years (1899-1902). In the end the Boer army was defeated and Pretoria was occupied. The Boers suffered greatly in the war. Their farms and crops were destroyed and Boer women and children were confined to internment camps. The shortage of food, beds, medical and sanitary facilities caused the death of 26,000 people. The British annexed the two Boer states but promised self government in due course. Boer states were given full responsible government in 1907. After discussions over the years the four states finally decided to form a union and South Africa as a state was born in 1909.

Boer War

The Zulu tribe was known for its strong fighting spirit, represented by renowned warriors like Shaka Zulu who played a prominent role in building the largest Zulu nation in south-eastern Africa. British troops invaded Zulu territory and divided it into thirteen chiefdoms. The Zulus never regained their independence and had to fight against deeply entrenched racism in South Africa for about a century.

Shaka Zulu

Rhodesia

The British South African Company founded in 1889 conducted an expedition

with 600 men- each of them were promised a 3,000 acre farm. The African king was tricked into believing that all that the Europeans wanted was gold. But they had come with a definite plan of colonising the Bechuanaland. During the next ten years African opposition was crushed. White immigrants were provided with farm lands and railways, and a telegraph system developed. The colony came to be called Rhodesia, after Cecil Rhodes.

West Africa

The coastal states of Gold Coast became a British colony in 1854. Nigeria was used for slave trading posts on the coast. In 1886 the Royal Niger Company was formed which was taken over by the British government in 1900.

French West: Senegal had been a French base in West Africa. Her later possessions of Guinea, Ivory Coast and Dahomey were linked up with the whole area of south of Sahara.

Congo: Leopold II, king of Belgium, showed interest in Congo and so the Berlin Conference agreed to the rule of Leopold in Congo Free State. This State was given a monopoly of the trade in ivory and rubber, the two most valuable products of the Congo. These products were collected with harshness. Africans were subjected to forced labour. Each village was given a quota, and if quotas were not fulfilled, they were flogged and mutilated. The public outcry over the economic exploitation of Africans persuaded the Belgian Government to intervene. Leopold was forced to relinquish his "sovereign right" and in 1908 sovereignty over the Congo passed from Leopold to Belgium.

Leopold II

East Africa

British: In 1886 the possessions of the Sultan of Zanzibar were divided into British and German spheres of influence. For the first few years, the British area was administered by the British East India Company, but in 1895 the British government assumed authority and formed the East African Protectorate, which included Kenya, Uganda and Zanzibar. A large part of Uganda was made up of Buganda, a kingdom ruled by Kabaka. Dubbing the ruler as weak and inefficient, the British established their indirect rule as in the princely states of British India.

Germans: The Germans established their rule in what became German East Africa. Like King Leopold in the Congo, the Africans here were economically exploited, leading to a number of rebellions. The most serious was the Maji-Maji rebellion (1905-1907).

Portuguese Angola and Mozambique

The Portuguese had used these two colonies on the west and east coasts of southern Africa, along with Portuguese Guinea since 16th century. Before the mid-nineteenth century, there was no expansion of the settlement. After 1870, the Portuguese arrived in great numbers and settled there. They organised the administration and kept the Africans in conditions of slavery.

African Rule in Liberia and Ethiopia

Only two countries managed to evade European colonialism – Liberia and Ethiopia. Liberia was formed in the early 19th century as a home for African Blacks repatriated from America. Ethiopia, with its traditional polity, was ruled by the Emperor Menelik. Under him, Ethiopia defeated Italy at the battle of Adowa in 1896. After this, their independence could

not be curtailed by any European power. Menelik modernized his country by the introduction of railways and electricity.

Emperor Menelik

3.3 Colonisation of India

Towards the close of the 15th century, Portugal became the first European power to establish a trade link with India. Rounding the Cape of Good Hope Vasco da Gama arrived in Calicut in 1498. Soon other European powers joined Portugal in establishing their presence in India. The European powers in India since 16th century are given below:

Portuguese	1505-1961
Dutch East India Company (Netherlands)	1605-1825
Danish East India Company (Denmark)	1620-1869
French East India Company	1668-1954
British East India Company	1612-1757
British Company Rule	1757-1857
British Imperial Rule	1858-1947

In the rivalry among four major European powers – Portuguese, Dutch, French and English – the English, after three Carnatic Wars, eliminated the French by the end of the eighteenth century. The British conquered all the regional powers, in particular the most potential challengers, the Mysore Sultans and the Marathas, by defeating them in three Anglo-Mysore and three Anglo-Maratha Wars. The conquest of the Gurkhas (1816), the Sindhis (1843) and the Sikhs (1849) enabled them to emerge as a territorial power in India.

The Colonialisation of Indian Economy

We can divide the process of the colonialisation of India into three phases

a. Phase I Mercantilist Capitalism
b. Phase II Industrial Capitalism
c. Phase III Financial Capitalism

Colonialisation of Indian Economy: Mercantilist Phase (Outright Plunder; 18th Century).

At the beginning of the 18th century the East India Company was still a marginal force in India. It relied on concessions from Indian rulers for its trading posts along the coast. But soon it managed to establish strong ties with Indian merchants who sold their textiles and other goods from the interior. Before it gained dominion in India the East India Company carried on a very profitable business selling Indian-made cotton textiles and silks and printed cloth. According to the Indian nationalist economist R.C. Dutt, weaving was the national industry of the people and spinning was the pursuit of millions of women. Indian textiles went to England and other parts of Europe, to China and Japan and Burma and Arabia and Persia and parts of Africa. It was during this period that the textile lobby in Lancashire and Birmingham succeeded in making the Parliament enact a law prohibiting the import of Indian textiles. Those who were found in possession of or dealing in Indian cotton goods were fined 200 pounds.

Mercantilism: Mercantilism refers to a number of prevailing economic theories applied by the state in its effort to attain wealth and power. Spain in the sixteenth century was the richest and most powerful in the world. Spain's power and wealth were found in the treasure pouring into Spain from its colonies. The more colonies a country had, the richer it would be. In sum, European countries pursued Mercantilism as a kind of national economic policy designed to maximize their trade, especially to maximize the accumulation of gold and silver.

In the 1750s and the early 1760s, Robert Clive gained control of the wealthiest part of the old Mughal Empire. The Company exacted concessions such as exemption of Company goods from transit duties, which even Indian merchants had to pay. After the Battle of Plassey (1757), the Company got 1.2 million pounds out of which Clive himself took 31,500 pounds besides a jagir which provided an annual income of 27,000 pounds. After the Battle of Buxar (1764), the Murshidabad treasury was looted. The Company acquired the Diwani right in 1765 and became the revenue farmer of the Mughal Emperor.

Robert Clive

The money looted and carried from India helped to finance the Industrial Revolution in England. After the Industrial Revolution in England, instead of protecting and encouraging industries in India, the East India Company crushed every industry which came in conflict with British industry. The ship-building industry collapsed. Metal workers could not sustain their craft and the manufacture of glass and paper dwindled. India which had been the "Lancashire of the Eastern World" began to lose its position when its cottage industries had to compete with machine industry developed in England. Thrown out of employment, the weavers and other artisans who lived in towns and cities had to return to villages. The agricultural sector, which was already over-crowded, had to support all these unemployed artisans.

3.4 Industrial Capitalist Phase: 1st half of the Nineteenth Century

By the beginning of nineteenth century the Company had emerged as a territorial power. During this period India was converted into a market for British textiles and a great source of raw materials. The Company government's expansionist policies led to wars against regional rulers. The cost of these internal conquests was imposed on India. This apart, the Company remitted to England what was called Home Charges – the dividends on East India's stock, interest on debt, savings from salaries and the pensions of officers and establishments and buildings in the India Office, London, transporting cost of British troops to and from India. This drain of wealth in the form of Home Charges in course of time rose to 16 million pounds per year, excluding the private remittances that worked to 10 million pounds.

Financial Capitalist Phase: 2nd half of the Nineteenth Century

During this phase managing agency firms, export-import firms, and exchange banks

began to prosper. In its bid to provide an outlet to the investible surplus capital in England, the Company government decided to make a massive investment in railroads, the postal system, irrigation, modern banking and education. The capital exported was predominantly for railway construction. The railways helped to move British troops quickly across the country. It also enabled the conquest of the Indian market to the maximum extent. The Company, supported by the English Parliament, encouraged British investment in railways with a guaranteed annual interest of 5 per cent. Mining companies were given for nominal fees and low royalties. Land for cultivation of coffee, tea, pepper and rubber was given at a throwaway price. In order to facilitate the supply of labour to work on plantations in British overseas colonies, slavery was abolished in India (1843) and the system of indentured labour was introduced.

3.5 Economic Impact of British Rule

Agrarian Conditions

Governor General Cornwallis, himself a big landlord in England, wanted to create landlords in India on the English model. There were already revenue farmers under the Mughals. Cornwallis came to a settlement with them, treating them as landlords. The outcome was that for the first time in India there was a class of zamindars or landlords with a right to own, bequeath and inherit land. The cultivators, on the other hand, were reduced to the position of mere tenants. The British dealt with the landlords or zamindars directly, and gave them total freedom to do what they liked with their tenants. This settlement made with the zamindars of Bengal, Bihar and Orissa is called the Permanent Settlement (1793).

Indian peasants in paddy field

The Ryotwari System was a different revenue system introduced in south India. Under the system, the peasant was the proprietor and paid tax on the land. The government dealt with him directly, without the intervention of a middleman or a tax-farmer. He was entitled to remain in possession of land acquired by him so long as he paid the land revenue. In case of default, apart from eviction and attachment of livestock, even household property or personal belongings could be attached. The Ryotwari System introduced the concept of private property in land. The individual holders were registered and permitted to sell, lease out, mortgage or transfer their right over the land.

Land Revenue and the Pauperisation of Peasantry

The land tax which was the main source of revenue to the British was collected forcibly. Even in times of famines no remission was given to the peasants. They had to even mortgage or sell their property including their land to pay the landlord's rent and the land tax. As no credit facilities were provided by the state, they had to depend on moneylenders to borrow money. A system of money lending was followed by professional money-lenders who belonged to various communities such as *mahajans*, *sahukars*,

and *bohras*. In the Tamil speaking areas there were Nattukottai Chettiyars.

Money lending had been practiced since time immemorial. But earlier the lenders lent at their own risk. But the British enacted a law allowing them to attach land or property in default of repayment. The peasant was therefore at the mercy of the money-lenders during times of droughts, floods and famines. This resulted in land changing hands from the cultivating class to the non-cultivating class, leading to absentee landlordism. Absentee landlords showed little interest in agriculture.

The colonial state pursued a policy of 'commercialization of agriculture'. Commercial crops like cotton, jute, groundnuts, oilseeds, sugarcane, tobacco, etc., depending on the market demands fetched better prices than food grains. So in his bid to clear his debt and to pay up the revenue dues to the state, instead of producing for home consumption, the peasant began to raise crops for the market. He had to depend on the price trend in international markets for selling his agricultural goods. Ignorant of market forces the peasants often came to distress, when the demand in the local market, which was now linked to the world market, crashed.

Irrigation

The British neglected irrigation in the first half of nineteenth century. Major irrigation canals were built only after millions of people died in a series of major famines that broke out periodically from the middle of 19th century. Even then the money earmarked for irrigation was meagre, but due to the initiative of some well meaning British officials and engineers like Arthur Cotton, and later Pennycuick guaranteed protected irrigation became possible in certain areas. Even where such efforts were taken, the British collected an extra cess adding to the misery of the peasants who were already groaning under the oppressive land revenue system.

Arthur Cotton

Pennycuick

Colonel Pennycuick was an army Engineer and Civil Servant who also served as a member of the Madras Legislative Council. He decided to divert the west-flowing Periyar river draining into the Arabian Sea to the east so that it could irrigate lakhs of acres of dry land dependent on the Vaigai river. Though Pennycuick and other British engineers went ahead with the construction, braving nature's fury and the dangers of poisonous insects and wild animals, the construction was disrupted by relentless rain. Since he could not get adequate funds from the British government, Pennycuick went to England and sold his family property to mobilise money to fund the project, which was completed in 1895. The Mullai Periyar Dam continues to irrigate agricultural lands in Theni, Dindigul, Madurai, Sivaganga and Ramanathapuram districts.

Famines

The policy of free trade and the forcible collection of land revenue resulted in the outbreak of famines. The Odisha famine of 1866–67, was a severe and terrible event in the history of that region in which about a third of the population died. The famine of 1876–78, also known as the Great Famine of 1876–78 (called Thathu Varusha Panjam in Tamil), caused a large migration of agricultural labourers and artisans from southern India to British colonies, where they worked as indentured labourers on plantations. The death toll—about 10.3 million—was huge.

Odisha famine of 1866

In the Madras Presidency, the famine of 1876-78 was preceded by droughts. The situation was made worse because of the colonial government's policy of laissez faire in the trade of food-grains. For example, two of the worst famine-afflicted areas in the Madras Presidency, the districts of Ganjam and Vizagapatam, continued to export grains throughout the famine. These famines were typically followed by various infectious diseases such as bubonic plague (spread by dead rats) and influenza, which attacked and killed a population already weakened by starvation. The memory of this famine is still preserved in various folk songs and ballads.

Famines in British India: The Bengal famine of 1770, took a heavy toll of about 10 million people or nearly one-third of the population in Bengal. This is how British rule commenced in India. Similarly the British rule ended with a terrible Bengal famine of 1943 that claimed the lives of nearly three millions. Amartya Sen, awarded the Nobel Prize in 1998, who as a young boy saw people dying on the streets of Kolkata wrote a path-breaking study of it.

Famine relief camp kitchen in Madras, 1876-1878

Picture by W.W. Hooper

Indentured Labour

The Indentured Labour System was a form of debt bondage, by which 3.5 million Indians were transported to various British colonies to provide labour for the plantations (mainly sugar). It started from 1843, the year of abolition of slavery in India and continued until 1920. This resulted in the development of a large Indian diaspora, which spread from the Indian Ocean (Reunion and Mauritius) to Pacific Ocean (Fiji), as well as contributing to the growth of Indo-Caribbean and Indo-African population.

The Indenture system was a penal contract system. The contract made punishable the refusal of an indentured labourer to work or his abstention from work, or his defiance of the orders of his master or absconding, by forfeiture of wages or imprisonment with or without hard labour.


Indian indentured Labourers in Trinidad

Between 1842 and 1870 a total of 525,482 Indians emigrated to the British and French Colonies. Of these, 351,401 went to Mauritius, 76,691 went to Demerara, 42,519 went to Trinidad, 15,169 went to Jamaica, 6,448 went to Natal, 15,005 went to Reunion and 16,341 went to the other French colonies. This figure does not include the 30,000 who went to Mauritius earlier, labourers who went to Ceylon or Malaya and illegal recruitment to the French colonies. Thus by 1870 the indenture system, transporting Indian labour to the colonies, was an established system of providing virtual slaves for European colonial plantations.

SUMMARY

- The rivalry of the Portuguese, the Dutch and the English to possess colonies in Malayan Peninsula is dealt with
- The Dutch establishment of their base at Djakarta and gradually extending their control over Java and Sumatra (Indonesia) is discussed
- The British from its base in Penang taking in its possession the Federated Malay States, the Straits Settlements and Burma is dwelt on
- Spain initially colonising Philippines which was later taken by the US is pointed out
- Britain conquering first Natal, Cape Colony and later the coastal states of Gold Coast, the Dutch holding the states of Transvaal and Orange Free State are described
- The British settling in Johannesburg and coming into conflict with the Boers resulting in Boer Wars are highlighted
- Britain founding a colony in Bechuanaland and later crushing the resistance of the Africans taking over it and naming it Rhodesia is focused on
- French with its initial possession of Senegal annexing Guinea, Ivory Coast and Dahomey (today part of Benin in African Union); Congo being handed over to the Belgians which was ruled by Leopold, all pertaining to West Africa, are detailed
- British Kenya, Uganda, and Zanzibar, German East Africa, the Portuguese colonisation of Angola and Mozambique, along with Portuguese Guinea are dwelt on
- How the Indian economy was colonialised in the aftermath of the establishment of British rule through three different successive phases is explained
- The onslaught of British colonialism on agrarian conditions of India resulting in impoverishment of peasantry and outbreak of famines forcing them to emigrate to colonies of British Empire as indentured labourers

EXERCISE

I. Choose the correct answer

1. _____ was brought to the attention of the East India Company by Francis Light.

a) Spice islands
b) Java island
c) Penang island
d) Malacca

2. In 1896 _____ states were formed into Federated Malay States

a) Four
b) Five
c) Three
d) Six

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3. _____ was the only part of Indo-China which was directly under French Control

a) Annam
b) Tong king
c) Cambodia
d) Cochin-China

4. The Discovery of gold in the _____ led to a large number of British miners settled in and around Johannesburg.

a) Transvaal
b) Orange Free State
c) Cape Colony
d) Rhodesia

5. _____ became the first European power to establish trade with India

a) Portuguese
b) French
c) Danes
d) Dutch

6. Ethiopia defeated Italy at the battle of _____

a) Adowa
b) Dahomey
c) Tonking
d) Transvaal

7. Indentured labour system was a form of _____

a) contract labour system
b) slavery
c) debt bondage
d) serfdom

II. Fill in the blanks

1. _____ Conference resolved to divide Africa into spheres of influence of the various European Powers.

2. Ethiopia defeated Italy at the battle of _____ in 1896.

3. The settlement made with the zamindars of Bengal, Bihar and Orissa is _____

4. _____ was the author of a book called "*Notebook from Prison*"

5. _____ were money lenders in the Tamil speaking areas.

III Match the following

1.	Leopold	-	Ethiopia
2.	Menelik	-	Vietnam
3.	Cecil Rhodes	-	Belgium
4.	Bengal famine	-	Cape colony
5.	Bao Dai	-	1770

IV Find out the correct statement

1. i) Until the last quarter of the 19th century, Africa south of Sahara was unknown to the world.
   ii) The coastal states of Gold Coast became a British colony in 1864.
   iii) Spain ruled the Philippines for over 500 years.
   iv) The famine of 1876–78 occurred in Odhisha.
   a) i) is Correct
   b) ii) is Correct
   c) ii) & iii) are correct
   d) iv) is correct

2. i) The French had occupied Java and Sumatra in 1640.
   ii) The Dutch began their conquest of the English Settlements by capturing Malacca .
   iii) Berlin Conference met to decide all issues connected with the Congo River basin.
   iv) The possessions of Sultan of Zanzibar were divided into French and German spheres of influence.
   a) i) is correct
   b) ii) & i) are correct
   c) iii) is correct
   d) iv) is correct

3. **Assertion:** (A) In the Madras Presidency, the famine of 1876-78 was preceded by droughts.
   Reason: (R) : Because of the colonial government's policy of Laissez Faire in the trade of food- grains.
   a) A is correct, R is wrong
   b) Both A & R are wrong
   c) A is correct , R is not the correct explanation of A
   d) A is correct, R is the correct explanation of A

4. **Assertion (A):** Berlin Conference agreed to the rule of Leopold II in Congo Free State.
   Reason (R): Leopold II, King of Belgium, showed interest in Congo.
   a) Both A and R are correct and R is the correct explanation of A.
   b) Both A and R are correct and R is not the correct explanation of A
   c) A is correct and R is wrong.
   d) A is wrong but R is correct

V Answer the following briefly

1. Distinguish between Colonialism and Imperialism.
2. Write a note on Zulu tribe.
3. State the three phases in the colonialisation of Indian economy.
4. Colonel Pennycuick.
5. Explain Home Charges.

VI Answer all questions given under each heading

1. Colonialism in India
   a) When did the East India Company acquire the Diwani Right?
   b) When were the Gurkhas conquered by the British?
   c) When was slavery abolished in British India?
   d) When did Burma become a part of the Madras Presidency?

2. South Africa
   a) Name the states possessed by the British in South Africa
   b) What were the territories held by the Dutch?
   c) Who was the Prime Minister of Cape colony?
   d) How long did Boer Wars last?

VII Answer in detail

1. Discuss the economic impact of British Rule in India.
2. Explain the process of colonisation in Africa.

VIII Activity

1. Prepare an album with pictures and images of famines that affected different parts of India during the British colonial rule.
2. Attempt an account of the cultural relations between India and Southeast Asia.

IX Assignment

1. Arrange a debate in the class room on the merits and demerits of the British rule in India.
2. Explore the impact of colonialism in British Burma.

GLOSSARY

subjugation	bring a person or a country under control	அடிமைப்படுத்துதல்
allegiance	loyalty	விசுவாசம்
rationale	reasons or a logical basis for a course of action	காரணம்
tutelage	guardianship	பாதுகாப்பு
emporium	a large commercial complex selling a wide variety of goods	வர்த்தக ஸ்தலம்
penetration	entry with force	ஊடுருவல்
tricked	cheated	ஏமாற்றப்பட்ட
flogging	beat (someone) with whip or stick as punishment or torture	கசையடி கொடுத்தல்
relinquish voluntarily	to give up a post or office	பதவி பொறுப்பைத் துற / கைவிடு
remittance	a sum of money sent, especially by mail in payment for goods or services or as a gift	அனுப்பிய பணம்
diaspora	persons dispersed from their homeland	புலம் பெயர்ந்தவர்கள்
abortive	unsuccessful	தோல்வியுற்ற

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GLOSSARY

abortive	unsuccessful	தோல்வியுற்ற
allegiance	loyalty	விசுவாசம்
cartel	a monopolistic association of manufacturers	சர்வாதீனக் கூட்டமைப்பு
commemorate	celebrate the memory of a person or an event	ஒரு நபர் அல்லது நிகழ்வு நினைவாகக் கொண்டாடு
deformities	defects / abnormalities	குறைபாடுகள்
diaspora	persons dispersed from their homeland	புலம் பெயர்ந்தவர்கள்
dock	a structure extending along shore or out from the shore into a body of water, to which boats are moored	கப்பல் துறை
dogmatic	clinging to principles as incontrovertibly true / opinionated	வறட்டுச் சித்தாந்தப் பிடிப்பு
dwindle	diminish gradually in size	அளவில் குறைதல்
emboldened	giving the courage or confidence to do something	துணிந்த
embossed	carved	பொறித்த
emporium	a large commercial complex selling a wide variety of goods	வர்த்தக ஸ்தலம்
encyclopaedia	a book containing a set of articles on many subjects and arranged alphabetically	கலைக்களஞ்சியம்
entrepreneurial class	a group characterised by the taking of financial risks in the hope of profit	தொழில் முனைவோர் வர்க்கம்
flogging	beat (someone) with whip or stick as punishment or torture	கசையடி கொடுத்தல்
frustrated	expressing feelings of despair	விரக்தியடைந்த
guillotine	a machine with a heavy blade used for beheading people	தலையை வெட்டும் இயந்திரம்
impoverished	poverty stricken	வறிய நிலைக்கு ஆளாக்கப்பட்ட
incorporated	included	இணைக்கப்பட்டுள்ள
intriguing	puzzling	புதிராக
manhunt	an organized search for a person	மனித வேட்டை
migrants	persons who moved from one place to another in search of livelihood or for settlement	புலம் பெயர்ந்தோர்

molasses	thick dark brown syrup obtained from raw sugar during the refining process	வெல்லப்பாகு
pauperized	impoverished	வறியவர்களாக்கப்பட்டோர்
penetration	entry with force	ஊடுருவல்
perpetuating	keeping alive, continuing indefinitely	தொடர்ந்து கொண்டிருக்கும்
proponents	persons advocating a theory or a proposal	ஆதரவாளர்கள்
rationale	reasons or a logical basis for a course of action	காரணம்
reconcile	to agree to	ஏற்றுக்கொள்ள
relinquish voluntarily	to give up a post or office	பதவி பொறுப்பைத் துற / கைவிடு
remittance	a sum of money sent, especially by mail in payment for goods or services or as a gift	அனுப்பிய பணம்
repealed	cancelled	நீக்கப்பட்ட / ரத்து செய்யப்பட்ட
resentment	fury / anger	சீற்றம் / கோபம்
scarce	insufficient for the demand	கிடைப்பருமை / பற்றாக்குறை
subjugation	bring a person or a country under control	அடிமைப்படுத்துதல்
tainted	imperfect	களங்கமுற்ற
tricked	cheated	ஏமாற்றப்பட்ட
tutelage	guardianship	பாதுகாப்பு
vehement	forceful	தீவிர / உணர்ச்சி வேகமுள்ள

STANDARD NINE

GEOGRAPHY

TERM III

UNIT 1

MAN AND ENVIRONMENT

Learning objectives

- To know the components of environment
- To understand the various features of human-environment interaction
- To know various settlement patterns
- To know the different economic activities of man
- To understand the environmental effects of human behaviour

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Environment is a set of relationships between man and nature. Man has survived through the ages, dwelling within his surrounding called the environment. The word 'environment' is derived from the French word 'environ' meaning encircled or surrounded. Environment includes both living (biotic) and non living (abiotic) components.

1 Man and environment

Early man depended entirely on nature for food, clothing and shelter. Man has enjoyed a dominant position over the other living organisms around him because of his erect posture, hands and intelligence. From the paleolithic period to the neolithic period, man has invented and developed the wheel, fire, tools and patterns of agriculture and

housing to his comfort, which led him to improve the standard of living making himself technologically advanced. Thus, modern man modified the environment where he multiplied in numbers to increase population and has always extended his territories, leading to the exploitation of natural resources.

DO YOU KNOW?

The Stockholm Conference, 1972, declared man as both a creator and moulder of his environment. 'The Earth Summit', formally known as the United Nations Conference on Environment and Development (UNCED) was held in Rio de Janeiro in 1992.

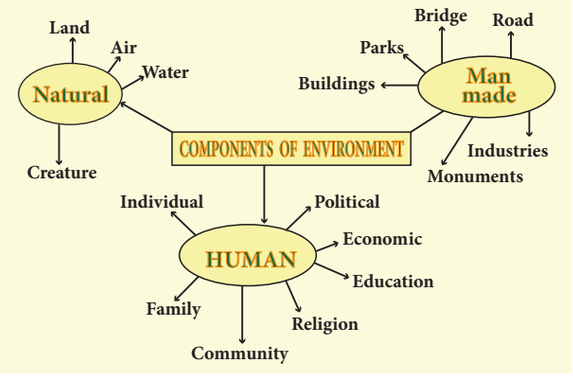
Classification of Environment:

Environment is generally classified as

(a) Natural environment

(b) Human environment and

(c) Man made environment



(a) Natural environment

Earlier, we have learnt about the natural components of environment such as lithosphere, atmosphere, hydrosphere and biosphere. In this chapter, we will study about the human and man-made components in a detailed manner.

Nature Walk

Invite the students for a nature walk around the school to discover their surroundings. Finally, request the students to label the natural and man-made things that they found in their school campus.

(b) Human Environment

Human environment is defined as the interaction between man as an individual, with his family, occupation and society. It is also related to various cultural aspects such as education, religion, economics and politics.

(c) Man-made environment

Man-made environment has been created by man himself for the purpose of fulfilling his needs and to make his life more convenient and easy. For example, building, transport, park, industrie, monument, etc. To bring an equilibrium between man and the environment, man has to study the distribution of population, availability of resources, development in technology, alternate means of fulfilling the increasing demand created by the growing population and other man-made features.

2 Population

Can you imagine a world without human beings? Humanbeings are important to develop the economy and society. The Latin word 'populus' means 'people'. Population is the total number of people living together in a particular place at the given point of time.

GJP21F

What is Demography?

In ancient Greek, 'demos' means people and 'graphis' means study of measurement. So, 'Demography' is the statistical study of human population.

2.1 Population Growth

'It is easy to add but difficult to maintain'

Population is a dynamic phenomenon where the number, distribution and composition are constantly changing. Human population increases as babies are born and decreases as people die. For most of human history, births have only slightly exceeded deaths every year. As a result, human population grow slowly. About the time of Industrial Revolution, it began to increase rapidly.

Natural increase of population is the difference between the birth rate and death rate. In fact population is always increasing but only in very rare cases it may decrease through natural or man-made disasters such as famine, landslides, earthquakes, tsunami, epidemics, extreme weather conditions and war.

Population change refers to an increase or decrease in the population of an area influenced by the number of **births, deaths and migration**. The population of the world doubled from 500 million in 1650 to 1000 million in1850.The projected population for 2025 and 2050 is about 8 billion and 9 billion respectively.

Population growth refers to an **increase** in the number of people who reside in a particular area during a particular period.

Population increases when there are more births and immigration. It decreases when there are more deaths and emigration. Population growth, can be calculated as

Population growth = (Birth rate + Immigration) - (Death rate + Emigration).

The important features associated with the population studies in Tamil Nadu are as follows:

S. No	Term	Definition	Data for Tamil Nadu
1	Birth Rate	Indicates the number of live births per 1000 people in a year	15.4% (2014)
2	Population Growth	The average annual growth of population	15.6% (2011)
3	Population Density	The average number of people per square kilometre	555/ Km^2 (2011)
4	Total Fertility Rate	The average number of children born per woman during her child bearing years (usually ages 15 to 44)	1.6 Birth Per Woman (2016)
5	Infant Mortality	The number of deaths under one year of age for every 1000 live births in a year	17 per 1000 live births (2016)
6	Life Expectancy at Birth	The average number of years an individual is expected to live	70.6 years (2010-14)
7	Literacy Rate	The percentage of people in a given population who can read and write a language	80.09% (2011)
8	Sex Ratio	The number of females for 1000 males in a given population	996:1000 (2011)

DO YOU KNOW?

The **black death** is estimated to have killed 30 - 60 percent of Europe's total population during the 14th century. The dominant explanation for black death is attributed to the outbreak of plague.

Census

Census is an official enumeration of population carried out periodically. It records information about the characteristics of population such as age, sex, literacy and occupation. Different countries of the world conduct census every 5 to 10 years as recommended by the United Nations. The first known census was undertaken nearly six thousand years ago by the Babylonians in 3800 BC (BCE). Denmark was the first country in the modern world to conduct a census. In India, the first census was carried out in the year 1872. Censuses have been conducted regularly every tenth year since 1881. The Indian Census is the most comprehensive source of demographic, social and economic data. Have you ever seen a census report? Check in your library.

2.2 Distribution of Population

Population distribution refers to the way in which people are spread out across the earth's surface.

The world population is not uniformly distributed, owing to the following factors.

a). Physical Factors

Physical factors include temperature, rainfall, soil, relief, water, natural vegetation, distribution of minerals and availability of energy resources.

b). Historical Factors

Regions with historical importance (river valley civilizations), war and constant invasions fall under historical factors responsible for population distribution.

c). Economic Factors

Educational institutions, employment opportunities, manufacturing industries, luxurious amenities, trade and commerce and other facilities encourage dense population in an area.

DO YOU KNOW?

The World Population Day is observed on 11th July every year. It seeks to raise awareness of global population issues. The United Nations Development Programme started celebrating this event from the year 1989.

2.3 Density of population

Density of population refers to the number of people living per square kilometre. An area is said to be sparsely populated when it has a large area with less number of people. Similarly, smaller the area with a large number of people, it is said to be densely populated.

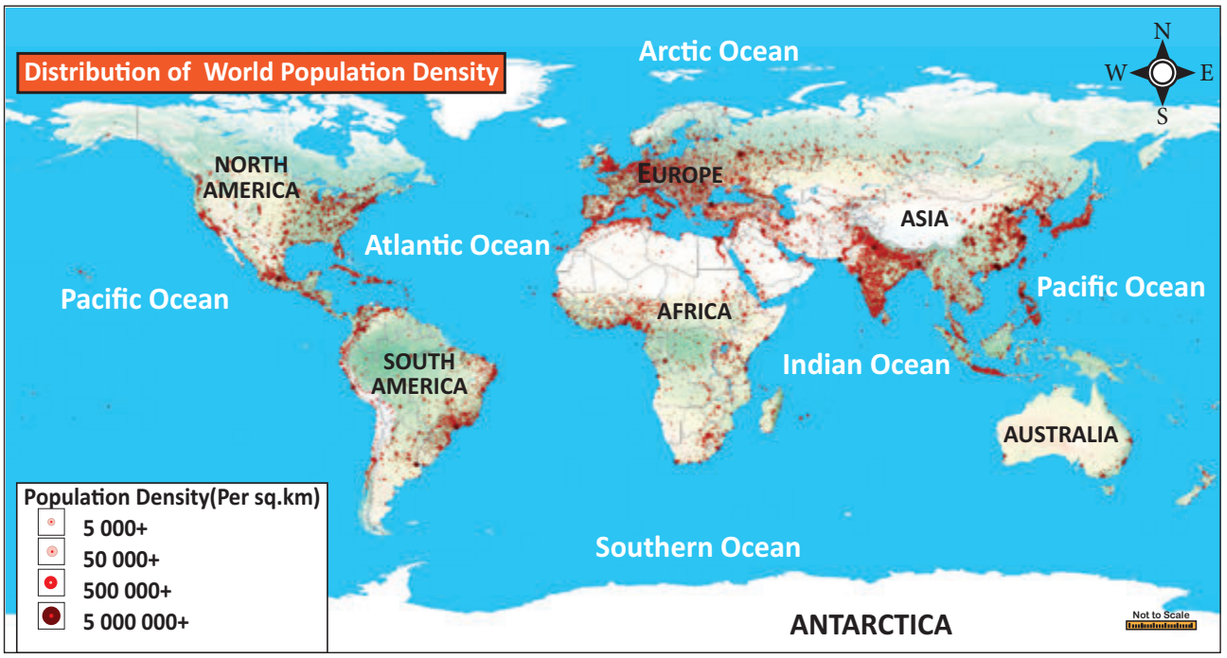
$$\text{Population Density} = \frac{\text{Total Population}}{\text{Total land area}}$$

The world's population density is divided into three main groups.

- Areas of high density (above 50 people per sq.km) - East Asia, South Asia, North West Europe & Eastern North America.
- Areas of moderate density (10 to 50 people per sq.km) - The sub tropical regions like Angola, Congo, Nigeria and Zambia in Africa.
- Areas of low density (less than 10 people per sq.km) - Central Africa, Western Australia, Northern Russia, Canada, etc…

Over population and Under Population

Over population is a condition when a country has more people than its resources to sustain. Under Population is a condition where there are too few people to develop the economic potential of a nation fully.



Activity

The population data of the five most densely populated districts of Tamil Nadu is given below. (Findout the population density and their rank)

District	Area (square km)	Population (2011 census)	Population Density	Rank
Chennai	178.2	46,46,732		
Kanchipuram	7857	39,98,252		
Vellore	6077	39,36,331		
Thiruvallur	3424	37,28,104		
Salem	5205	34,82,056		

'India has an official population policy implemented in 1952. India was the first country to announce such a policy. The main objective of this policy was to slow down the rate of population growth, through promotion of various birth control measures.

2.4 Migration

Migration is defined as the permanent or semi-permanent change of home of an individual or a group of people over a significant distance from their place of origin. The causes of migration may be physical (climate, drought, flood, earthquake, volcanic eruption, epidemics etc.), social inequalities, economic opportunities, technology, education, cultural clashes, war or political issues.

There are two types of migration:

a. Internal Migration

The movement of people within a country i.e. between states, districts, villages, etc is called as Internal migration.

b. International Migration

The movement of people from one country to another, across international borders is called as International migration.

Emigration means moving out or to leave a place.
Immigration means to enter or come into a new country for the purpose of settling there.

Push and pull factors of migration

Push factors are those factors which force people to move to new areas to live, while pull factors are those factors that attract migrants to a new location. Given below are some of the push and pull factors of migration.

Push Factors of migration	Pull factors of migration
• Insufficient jobs and few opportunities	• Better job opportunities
• Primitive conditions	• Better living conditions
• Desertification	• Fertile land
• Slavery or forced labour	• Socio economic independence
• Poor medical care	• Better health care
• Death threats	• Security
• Pollution	• Clean environment
• Poor infrastructural facilities	• Better infrastructural facilities
• Bullying	• Education
• Natural Disasters	• Living Stability
• War	• Industry
• Lack of political or religious freedom	• Political and religious freedom

3 Human settlements

A settlement can be described as any temporary or permanent unit area where people live, work and lead an organized life. It may be a city, town, village or other agglomeration of buildings. During the early days, man preferred tree branches, caves, pits or even rock cuts as his shelter. As days passed by, man slowly learnt the art of domesticating animals and cultivating food crops. The evolution of farming took place along four major river basins i.e. the Nile, Indus, Hwang Ho, Euphrates - Tigris. Man built huts and mud houses. Slowly settlements came into existence. A settlement generally consisted of a cluster of houses, places of worship and a place of burial. Later, small settlements developed into villages. Several villages together formed a town. Bigger towns developed into cities. Settlements were formed in different shapes, sizes and locations.

3.1 Classification of settlements

On the basis of occupation, settlements may be classified as **rural and urban settlements.**

3.1 (A) Rural Settlements

Any settlement where most of the people are engaged in primary activities like agriculture, forestry, mining and fishery is known as a rural settlement. Most of the world's settlements are rural, that are mostly stable and permanent. The most important and unique feature of rural settlements is the vast, open spaces with green, pollution-free environment.

Patterns of rural settlements:

➢ Rectangular pattern:

Rectangular pattern of settlements are found in plain areas or valleys. The roads are rectangular and cut each other at right angles.

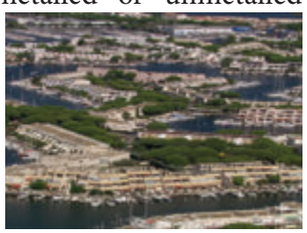
➢ Linear pattern:

In a linear pattern, the houses are located along a road, railway line and along the edge of the river valley or along a levee.

➢ Circular or semicircular pattern:

The pattern of settlement that is found around the lakes, ponds and sea coasts are called circular or semi circular pattern.

➢ Star like pattern:



Where several metalled or unmetalled roads converge, star shaped settlements develop. In the star shaped settlements, houses are spread out along the sides of roads in all directions.

➢ Triangular pattern:

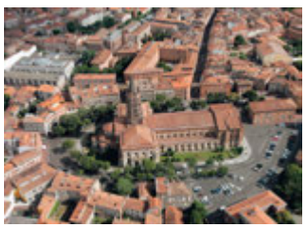
Triangular patterns of rural settlement generally develop at the confluence of rivers.

➢ T-Shaped, Y-Shaped, Cross-Shaped or Cruciform settlements:

T-shaped settlements develop at tri-junctions of the roads **(T),** while **Y**-shaped settlements emerge as the places where two roads converge with the third one. Cruciform settlements develop on the cross-roads which extend in all four directions.

➢ Nebular pattern:

The arrangement of roads is almost circular which ends at the central location or nucleus of the settlement around the house of the main landlord of the village or around a mosque, temple or church.

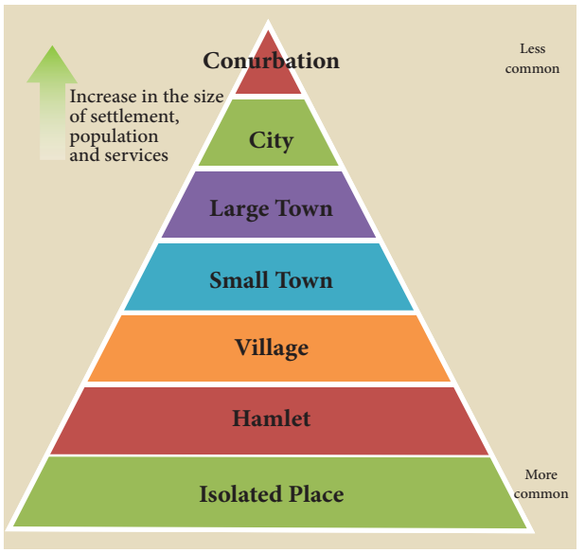


3.1 (B) Urban Settlements

Urban is the term related to cities and towns where people are primarily engaged in non-agricultural activities, such as secondary, tertiary and quaternary activities. The common characteristic feature of an urban unit is that they are compact, congested and liable to a large number of population. They comprise of mostly man-made structures that fulfill the requirements of a society's administrative, cultural, residential and religious functions. The factors responsible for urbanization are better employment opportunities, suitable conditions for business, education, transport, etc.

Classification of Urban Settlements

Urban centres are classified as towns, cites, metropolitan cities, mega cities, conurbation, etc., depending on the size and services available and functions rendered to it.



Town: A town is generally larger than a village, but smaller than a city. It has a population of less than 1 lakh. E.g.: Arakkonam near Chennai

City: Cities are much larger than towns and have a greater number of economic functions. The population in cities are estimated to be more than 1 lakh. E.g.: Coimbatore

Metropolitan cities: Cities accommodating population between 10 lakhs and 50 lakhs are metropolitan cities. E.g.: Madurai

Megacities: Cities with more than 50 lakh population are called Megacities. E.g.: Greater Chennai

Conurbation: A conurbation is a region comprising of a number of cities, large towns and other urban areas. E.g.: Delhi conurbation

DO YOU KNOW?

- Damascus is widely believed to be the oldest, continuously inhabited city in the world, dating back to at least 11, 000 years.
- Tokyo is the world's largest city with the greater Tokyo area, housing about 38 million inhabitants.
- According to the Quality of Living Rankings by Consultancy Mercer, in 2016, the city offering the best quality of life was Vienna, with Zurich falling second. (Sources: United Nations, UNESCO, Mercer).

4 Economic Activities

Economic activities are those efforts or actions that involve production, distribution and consumption of commodities and services at all levels within a region.

Types of Economic Activities

Primary Activities:

Primary Activities pertain to the extraction of raw materials from the earth's surface. For example: food gathering, hunting, lumbering, fishing, cattle rearing, mining and agriculture.

Secondary Activities:

Secondary Activities transform raw materials into finished goods. For example: Iron and Steel industries, automobile manufacturing etc.

Tertiary Activities:

Activities which by themselves do not produce goods, but support the process of production are called tertiary activities. For example: Transport, communication, banking, storage and trade.

Quaternary Activities:

The activities related to Research and Development, as well as knowledge are called Quaternary activities. For e.g. Services like consultation, education and banking

Quinary Activities:

The activities that focus on the creation, rearrangement and interpretation of new and existing ideas are called quinary activities. It includes the highest levels of decision making in a society or economy. E.g.: Senior business executives, scientists and policy makers in the Government.

5 Environmental Issues

Environment is the basic life support system that provides air, water, food and land to all living organisms. But human beings degrade the environment through rapid industrialization.

Human life will be at risk if they don't live in harmony with the environment. Environmental problems are not limited to the local, regional and national level, but there are several global issues. Scientific and technological revolutions has given a lot of facilities to mankind, but at the same time it is responsible for the depletion of resources. Thus, several environmental problems have emerged. Some of the environmental issues that we are going to learn are:

- Deforestation
- Pollution such as air, water ,noise, etc
- Urbanisation
- Fracking
- Waste disposal

5.1. Deforestation

Deforestation is the cutting down of trees permanently by the people to clear forests in order to make the land available for other uses.

Effects of Deforestation:

Deforestation results in many effects like floods and droughts, loss of soil fertility, air pollution, extinction of species, global warming, spread of deserts, depletion of water resource, melting of ice caps and glaciers, rise in sea level and depletion of ozone layer.

The United Nations Conference on Environment and Development (UNCED) by name Earth Summit Conference held at Rio de Janeiro, Brazil, on June 1992 concluded that all member countries should reduce their emission of carbon dioxide, methane and other green house gases thought to be responsible for global warming.

Conservation of forests

(i) Conservation of forests can be done through the **regulation of cutting of trees**.

(ii) Control over forest fire: Through regular monitoring and controlling the movement of the people forest fire can be prevented.

(iii) Reforestation and afforestation: Reforestation involves the replanting or regeneration of areas of forest which have previously been damaged or destroyed. Sometimes forests are able to regenerate naturally. Afforestation is the process of planting trees or sowing seeds on barren land devoid of any trees to create a forest.

The term afforestation should not be confused with reforestation, which is the process of specifically planting native trees into a forest that has decreasing number of trees. While reforestation is increasing the number of trees of an existing forest, afforestation is the creation of a new forest.

(iv) Proper use of forest products: We depend on forests for our survival from the air we breathe, to the wood we use. Besides providing habitats for animals and livelihoods for humans, forest products are one of the most essential things in our day to day life. Therefore we must use forest products properly.

(v) Sustainable forest management: The use of forest and forest lands in a way and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill the global levels should not cause damage to other eco systems.

Forest Management seeks to achieve a balance between the society's increasing demands for forest products, its benefits and the preservation of forest health and diversity too. This balance is critical to the survival of forests and to the prosperity of forest dependent communities.

Activity

Van Mahotsav is a weeklong festival celebrated in India. This is a festival of life and is usually celebrated between 1st July and 7th July.

Plan your own way of celebrating Van Mahotsav in your school.

5.2. Pollution

Environmental pollution occurs when pollutants contaminate the natural surroundings. Pollution disturbs the balance of our eco system affecting our normal life styles and gives rise to human illnesses and global warming. The word 'pollute' means to degrade or to make dirty. Pollution is thus, an unfavourable modification of the natural world, caused entirely or partly due to direct or indirect actions of human beings.

There are many types of pollution degrading the environment. They are

a. Air pollution

b. Water pollution

c. Land pollution

d. Noise pollution

e. Light pollution

A. Air pollution

Due to some human activities or natural processes, the amount of solid wastes or concentration of gases, other than oxygen increases in air. Air thus becomes polluted and this process is called air pollution.

The pollutants are generally grouped as natural and manmade. The **natural pollutants** are volcanic eruptions, wind erosion, pollen disposal, evaporation of organic compounds and radioactive elements etc., Natural air pollution does not occur in abundance and also creates a little impact on the environment.

But, **manmade pollutants** like vehicular emission, industrial wastes, smoke from thermal power plants and refineries badly affect the environment. The main pathological effects caused by air pollutants, particularly oxides of sulphur, nitrogen and carbon-di-oxide, include respiratory disorders, jaundice, irritation of eyes and throat, headache, cancer and even death.

Green house effect

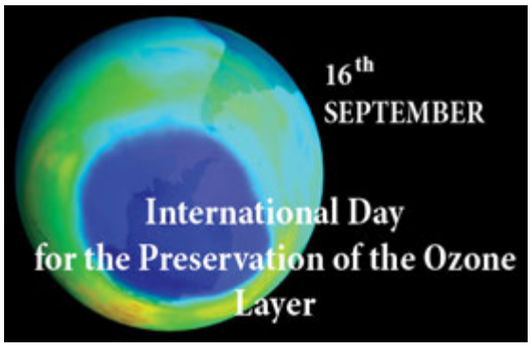
Global warming is caused by the increase of green house gases such as carbondioxide, methane, water vapour and Chloro Fluoro Carbons(CFC), carbon monoxide, photo chemical oxidants and hydrocarbons, which are responsible for the heat retention ability of the atmosphere. Global warming causes climatic change, ozone layer depletion, rise in sea level and drowning of coastal inhabited land, melting of ice, etc., They are posing an even greater threat to human existence and so, man must start thinking of protecting the environment from pollution.

Acid Rain

When pollutants combine with water vapour in the presence of sunlight and oxygen, they form dilute sulphuric and nitric acids in the atmosphere. When this mixture precipitates from the atmosphere, it is called acid rain. The gases that cause acid rain are sulphur-di-oxide, nitrogen oxides, carbon-di-oxide and other minute bio-products, caused by the burning of fossil fuels.

Ozone Depletion

Ozone layer is depleted by the pollutants like CFCs, HFCs, methyle bromite, etc. Due to the depletion of ozone layer, UV rays fall on the earth's surface, warming the earth surface and leads to impervious diseases like skin cancer, blindness, loss of plankton etc.,

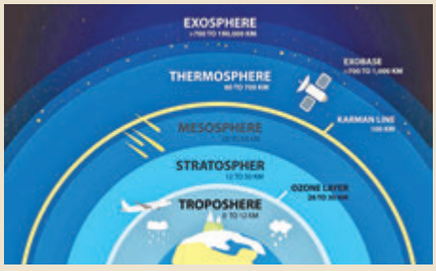


Ozone layer

Ozone is a poisonous gas made up of molecules consisting of three oxygen atoms (O_3). This gas is extremely rare in the atmosphere, representing just three out of every 10 million molecules.

The ozone layer is not really a layer at all, but has become known as such because most ozone particles are scattered between 19 and 30 kilometre up in the earth's atmosphere, in a region called the stratosphere.

Ozone layer in the atmosphere absorbs most of the harmful ultraviolet radiation from the sun. It also screens out the deadly UV-C radiation the ozone shield is this essential to protect life.



B. Water Pollution

Water pollution is any chemical, physical or biological change in the quality of water that has a harmful effect on any living thing that drinks or uses or lives in it. The water bodies including ponds, lakes, rivers, ground water and oceans are contaminated by the chemical wastes from industries, domestic wastes and sewage etc.

Major water pollutants

a). The disease – Causing agents; bacteria, viruses, protozoa and parasitic worms that enter sewage – systems and untreated waste.

b). Oxygen demanding bacteria: Wastes that can be decomposed by oxygen requiring bacteria.

c). Water soluble inorganic pollutants: Acids, Salt and toxic metals.

d). Organic compounds: Oil, plastics and pesticides in the water.

Our role in conserving water;

1. Do not dump in or around rivers. Clean up rivers that have a lot of trash in and around them.
2. Never dispose of cooking fats and oils by pouring them down the sink.
3. In the bathroom, take short showers and draw less water for baths. When you buy a new toilet, purchase a low flow model (1.6 gallons or less per flush). Check your toilet for "silent" leaks by placing a little food coloring in the tank and see if it leaks into the bowl.
4. Turn off water while brushing teeth, washing, gardening and shaving.
5. Keep a gallon of drinking water in the refrigerator, rather than running the tap for cold water. Run your washing machine with a full load of clothes. Wash with warm water instead of hot water, rinse with cold water instead of warm water.

Activity

List out a few other ways in which you can conserve water on a daily basis.

Causes of Water Pollution

Main pathological problems caused due to water pollution include diarrhoea, liver cirrhosis, lung cancer, kidney diseases, paralysis, chronic pain, bone deformities, cancer and even death and so on.

C Land Pollution

Land pollution is contaminating the land surface of the earth through dumping of urban waste matter. It arises from the breakage of

underground storage tanks, application of pesticides and percolation of contaminated surface water, oil and fuel dumping, leaching of wastes from landfills or direct discharge of industrial wastes to the soil.

Preventive Measures

1. Things used for domestic purposes can be reused and recycled.
2. Organic waste matter should be disposed off far away from the settlements.
3. Inorganic wastes can be separated, reclaimed and recycled.

D. Noise Pollution

Noise pollution is basically a problem of urban areas, industrial areas, transport areas due to bombardment, traffic etc. It has an impact on the habitat of animals migration and health of inhabitants. E.g. Chandipur Missile Launching Centre has created migration of sea birds. Hearing loss, hypertension, stress and mental illness are the major health hazards that human beings face.

The control measures of noise pollution

1. Development of green belt vegetation.
2. Installation of decibel meters along highways and in places of public gatherings.
3. Planting trees along the compound wall to protect houses.

LOUDSPEAKER PROHIBITION:

The major cause of noise pollution in public areas are loudspeakers. For the welfare of the people it should be banned at any cost. Those who violate and play loudspeakers in crowded areas and public places strict laws should be imposed against them.

Write your opinion on the prohibition act.

E. Light pollution

Light pollution is an unwanted consequence of outdoor lighting and includes such effects as sky glow, light trespass and glare. It is caused by streetlights, parking lot lights, floodlights, signs, sports field lighting decorative and landscape lights. It affects the environment, energy resources, wildlife, humans and astronomy research.

5.3 Urbanisation

Urbanisation refers to the process of increase in urban population and urban areas in a country.

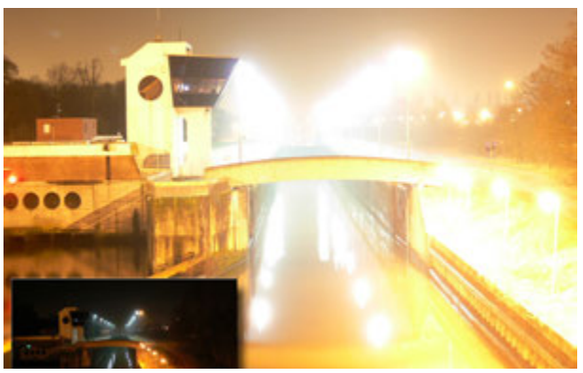
Problems of urbanisation

As the town expands, it mounts more pressure on transport system, water supplies, sewage and profuse disposal. The overall development creates problems like air pollution, water pollution, traffic congestion and noise pollution etc., This disturbed environment affects the human beings as mental illness, heart troubles, breathing problems etc.

Activity

Smog:- A mixture of smoke, gases and chemicals causes a smoky dark atmosphere, especially over cities. It decreases visibility and creates haze throughout the area.

Q.Collect a few paper cuttings on smog as a problem in your local area and write a few reasons for its occurrence.

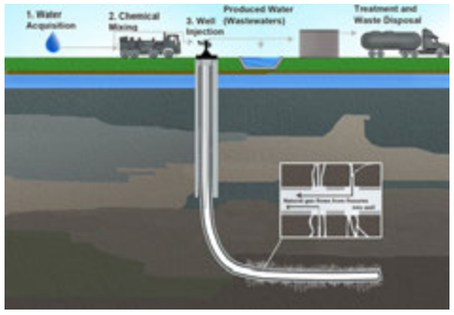


5.4. Fracking

The modern technology applied to extract oil and gas while fracturing the rocks artificially with the use of pressurized liquid is called fracking. Fracking fluid is a mixture of water, sand and thickening agents. The first successful implementation of the process was done in 1950.

Methane is one of the most important chemicals used in fracking process. It is estimated that four percent of methane escapes into the atmosphere during extraction.

Methane is 25 times stronger than carbon di-oxide in terms of trapping heat. The spills of this gas is detrimental to the air quality of the surrounding fracking sites. Pollutants decrease the availability of clean air for workers and local residents.



Other Environmental Concerns

Fracking not only pollutes water and air but also pollutes the soil. The oil spills during fracking can harm the soil and the surrounding vegetation. The use of high pressure at the time of oil extraction and the storage of waste water on site may cause earthquakes.

5.5. Waste disposal

Things become waste when their purpose of consumption is over. Wastes can be classified into five types, which are commonly found around the house. These include **liquid waste, solid rubbish, organic waste, recyclable rubbish and hazardous waste** like e-waste.

How to dispose of waste :

- Do not litter your surroundings. Use a proper waste bin to store your wastes.
- People should practise to segregate degradable and non-degradable wastes and should dispose them in proper coloured bins. Wastage is generally classified into three types. They are

Wet Waste: which comes from the kitchen/ cooking/food, etc.

Dry Recyclable Waste: such as newspapers, cardboard, packing plastics, bottles, cans, etc., should go to a different bin.

Rejected Waste: which does not belong to the above two categories, including bio waste like diapers and bandages, etc..

- Sewage sludge is produced by waste water treatment processes. Due to rapid urbanization, there has been an increase in municipal waste water. Common disposal practices of sewage should be send to sewage treatment plant through proper drainage pipes.

Rural India has hardly any arrangement to dispose off liquid waste. Only 56.4% of the urban wards have a sewer network. According to estimates, about 80% of the sewage in India flows into rivers, lakes and ponds. This sewage is untreated and pollutes water bodies.

- **Electronic Waste (e-waste)**: It can be defined as any electrical goods, devices or components that you no longer want or have already thrown away. For example, computers, televisions, mobiles and fax machines.

This waste can take many years to break down, if at all and can contain toxic chemicals such as mercury, lead and lithium that leach into the ground and cause illness. Even short-term exposure to high levels of lead can result in vomiting and diarrhea. Instead of sending e-waste to the dump, components from electronics can be reused to make new products.

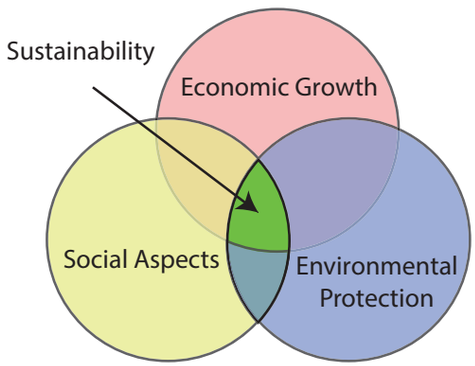
6 Sustainable Development

Humans on earth are facing many problems, such as pollution, climatic changes, poverty, war and uneven distribution of resources. These problems directly affect the survival of mankind. Therefore to sustain mankind, we have to educate people on what sustainable development is.

In 1987, the Brundtland Commission cited the definition of sustainability.

"Sustainable development is development that meets the needs of the present without compromising the ability of future generation to meet their own needs".

For sustainable development to be achieved, it is crucial to harmonize three core elements: **economic growth, social aspects and environmental protection**. These elements are interconnected and are crucial for the well-being of individuals and societies. To achieve true sustainability, we need to balance the economic ,social and environmental factors of sustainability in equal harmony.



➢ Social Sustainability

The ability of a social system such as a country, family or organization to function at a defined level of social well being and harmony is called social sustainability. Problems like war, endemic poverty, widespread injustice and low education rates are symptoms of a system in socially unsustainable. The balancing capacity of a government in maintaining peaceful existence towards other countries and at the same time providing the requirements of its citizens without affecting the environment creates social sustainability.

➢ Economic Sustainability

The people on earth consume far more than what is their fair share.

- The economic sustainability is successfully implemented through strong Public Distrubution System.
- Economic sustainability ensures that our economic growth maintains a healthy balance with our ecosystem.

➢ Environmental Sustainability

Environmental sustainability is the ability of the environment to support a defined level of environmental quality and natural resource extraction rates forever to mankind. Unnecessary disturbances to the environment should be avoided whenever possible.

Students' Activity

(Teacher should get a record of the students)

* **Play outside!**

  This simple activity goes a long way in teaching sustainability. Sharing in and appreciating a love of the outdoors will inspire children to care for earth.

* **Read books about the earth.**

  Books are great for young children to begin to learn about the earth.

* **Make your own paper.**

  Kids can use recycled paper scraps to make new paper!

Why is sustainability important?

The excessive usage of natural and manmade resources deplete its availability for the future generation. We need to look after our planet, our resources and our people to ensure that we can hand over our planet to our children to live in true sustainability. Hence conservation and awareness are the two important terms that can bring sustainability to our living. When we use the word sustainability to mean maintain, it means to maintain it forever. This is because our actions have a lasting effect on the environment and we should protect it for our future generations.

How to help the value of sustainability grow among students?

- **Lifestyle**

Your lifestyle is your choice and you can change it. For example, when you go to the grocery store, make sure you always carry a cloth bag. This way the shopkeeper does not have to give you many plastic bags.

- **Fixing**

If your watch or a toy or a camera is broken or not working, try getting it fixed before you buy yourself a new one.

- **Recycle**

Try and be conscious about the things around you. When you consume something, see if you can re-use it later.

- **Needs vs Wants**

Before you buy something, ask yourself the question- do I NEED this or do I WANT it? Remember sustainability begins with you. So act locally and think globally.

Activity

According to the United Nations Development Programme (UNDP) 17 Sustainable Development Goals (SDGs) / Global Goals have been set to protect the planet. Among those, Goal 11 is given below. Using the internet, browse and write an article about any other three Global Goals.

Case Study

The Mangroves of Palk Bay towards Sustainable Development

The sections above have discussed environmental degradation and climate change along with the concept of sustainable development. The connection between environment protection and restoration and sustainable development has also been presented. As an example, the case of the Mangroves of Palk Bay will help demonstrate these concepts in more practical terms.

Palk Bay is the area located roughly between Kodiakkarai or Point Calimere and Rameshwaram Island in Tamil Nadu on the southeastern coast of India. Palk Bay is home to mangrove ecosystems or tidal swamps. Characterised by plants and trees that can withstand high salinity, these swamps are rich in biodiversity. The Mangrove trees themselves, offer coastal protection by checking erosion. Erosion affects not just the coastline, but also coral reefs. The tangled roots of mangrove trees help retain and trap loose soil and thereby protect coral reefs and seaweed meadows from siltation. Coral reefs are important ecosystems in maintaining healthy fish population. Mangrove forests also help fish population by providing space which act as nurseries for juvenile fish.

In the recent decades, the mangroves of Palk Bay have been heavily degraded due to the Tsunami of 2004, land encroachment, rapid urbanisation, cattle grazing and agriculture. The degradation of mangroves resulted in the reduction of nursery space for juvenile fish, impacting fish populations in the region and as a result,the livelihood of the fishing communities of the region.

Given the scale of the problem, solutions needed to be multipronged and involve multiple stakeholders. Local communities, government and civic organisations all came together not just to conserve the remaining mangroves, but also to restore it.

- Saplings of native species of plants and trees are being grown, planted and cared for.
- Live colonies of coral from the Gulf of Mannar Biosphere Reserve are being transplanted to Palk Bay. The existing mangroves and the region are being mapped and the way land is used around the mangrove is being studied.
- The local communities are actively involved in the conservation and restoration of the mangroves. Education and awareness programmes about mangrove ecosystem are being undertaken.
- Along with awareness programmes, the communities are also being provided with livelihood training, so they can earn an income in more ways than just fishing.

All of these efforts are on-going. The health of the mangroves are improving and as it does, the fish population will improve in quality and quantity, improving the lives of the communities. As one can see, sustainable solutions take the needs of the people into consideration and the environment because both are interconnected.

Recap

- The place, things and nature that surround any living organism is called environment.
- The interaction between man as an individual with his family, occupation and society is called human environment.
- Population is a dynamic phenomenon where the number, distribution and composition are constantly changing.
- Population change refers to an increase or a decrease in the population of an area influenced by births, deaths and migration.
- The density of population is measured by dividing the total population by its total area.
- Push and pull factors of migration force people to move to new areas.
- On the basis of occupation, settlements are classified as rural and urban.
- Primary, secondary, tertiary, quaternary and quinary are the different types of economic activities.
- The various environment issues are deforestation, pollution (air, water, noise, land, lighting), urbanisation, fracking and waste disposal.
- Problems such as pollution, climatic changes, poverty, war and uneven distribution of resources leads to an unbalanced ecosystem. Therefore, to sustain mankind, it is a must to learn about sustainable development.

GLOSSARY

Equilibrium - A condition in which all acting influences are cancelled by others, resulting in a stable, balanced or unchanging system

Phenomenon - A fact or situation that is observed to exist or happen, especially one whose cause or explanation is in question.

Amenities - Something that contributes to physical or material comfort

Epidemics - A sudden, widespread occurrence of an undesirable phenomenon

Desertification - The process by which fertile land becomes a desert, typically as a result of drought, deforestation or inappropriate agricultural practice.

Boredom - The state of feeling bored

Cruciform - Having the shape of a cross

Lumbering - The trade of cutting or preparing or selling timber

Consultation - The process of discussing something with someone in order to get their advice or opinion about it:

Contamination - The action or state of making or being made impure by polluting or poisoning.

Deformities - The situation in which a part of the body has not developed in the normal way or with the normal shape.

Symptoms - Physical or mental feature which is regarded as indicating a condition of disease, particularly such a feature that is apparent to the patient.

Luminous - producing or reflecting bright light (especially in the dark).

Exercise

I Choose the correct answer

1. All external influences and factors that affect the growth and development of living organisms is _____.

GK7T4Q

a) Environment b) Ecosystem
c) Biotic factors d) Abiotic factors

2. The 'World Population Day' is observed on _____ every year.

a) August 11th b) September 11th
c) July 11th d) January 11th

3. The statistical study of human population is _____.

a) Demography b) Morphology
c) Etymology d) Seismography

4. The extraction of valuable minerals and other geological minerals from the mines, is _____.

a) Fishing b) Lumbering
c) Mining d) Agriculture

5. The Secondary sector of the economy produces _____from raw materials.

a) Semi finished goods
b) Finished goods
c) Economic goods
d) raw materials

6. Gradual increase of the earth's temperature by the Green house gases in the atmosphere is called _____.

a) Acid rain b) thermal pollution
c) Global warming d) Deforestation

Consider the given statements and choose the right option given below

8. **Assertion(A):** Ozone layer in the stratosphere is considered as a protective shield.

Reason(R): It prevents the UV radiation from reaching the earth's surface.

a) A and R are correct and A explains R
b) A and R are correct, but A does not explain R
c) A is incorrect but R is correct
d) Both A and R are incorrect

9. **Assertion(A):** In tertiary activities, instead of producing goods by themselves, they are in the process of production.

Reason(R): People in Tertiary activities are purely eco friendly.

a) Both A and R are incorrect
b) A and R are correct but A does not explain R
c) A is correct and R is incorrect
d) A and R are correct and A explains R

II. Match the following:

1.	Loudspeaker	-	Push factor
2.	Rio de Janeiro, Brazil	-	Pull factor
3.	Cruciform settlement	-	noice pollution
4.	Natural disaster	-	T- shaped settlement
5.	Better living conditions	-	Earth Summit, 1992

III. Answer the following in brief:

1. What do you mean by the term 'density of population'?
2. What is 'black death'?
3. Where do we have high and low densities of population?
4. What is Green House effect?
5. Write any two ways of how the locals and the government restored Palk Bay.
6. Define.
   i) Population growth
   ii) Infant Mortality Rate
   iii) Census
   iv) Sustainable Development.

IV. Distinguish the following:

1. Birth rate and Death Rate
2. Emigration and Immigration
3. Rural settlement and urban settlement
4. Metropolitan and Mega cities
5. Push factors and pull factors
6. Primary activities and Secondary activities
7. Water pollution and light pollution

V. Give reasons for the following:

1. Reforestation is encouraged throughout the world.
2. Acid rain destroys the ecosystem..
3. The economy of the quaternary sector is called knowledge economy.
4. Population growth has to be brought under controll.
5. Sustainable development growth has been set to protect the planet.

VI. Answer in a paragraph:

1. Explain the factors affecting the distribution of population.
2. Describe the patterns of rural settlement with neat diagrams.

VII. HOTS:

1. Migration towards cities are the main cause for the birth of slums. Justify.
2. Study your area and write down about its settlement pattern.

VIII. Map skill:

A. On the outline map of the world mark the following.

1. An area of high density of population in Europe.
2. An area of low density of population in Australia.
3. Palk Bay.
4. A fracking banned country.
5. England - A country affected by 'black death'.
6. Denmark - First country where the modern census was conducted.
7. River Hwang Ho.

B. On the outline map of Tamil Nadu mark the following.

1. A metropolitan city
2. A district with 7857 people per sq. km.
3. Gulf of Mannar
4. Palk Strait

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2. Majid Husain, (2015), Environment and Ecology Access Publishing India Pvt. Ltd, New Delhi.
3. Sharma. J.P. (2011), Environmental Studies, an Imprint o Laxmi Publications Pvt. Ltd, New Delhi.

INTERNET RESOURCES

https://www.google.co.in/search?

https://www.curbed.com/2017/8/9/16059384/vertical-forest-italy-climate-change

https://www.un.org/development/desa/publications/world-population-prospects-the-2017-revision.html

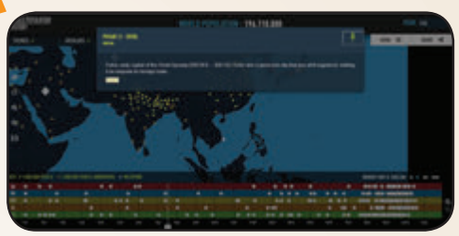
TAMIL GLOSSARY

1. Distribution of population	-	மக்கள்தொகை பரவல்
2. Population density	-	மக்களடர்த்தி
3. Migration	-	இடம்பெயர்தல்
4. Immigration	-	குடியிறக்கம்
5. Human settlements	-	மனித குடியேற்றம்
6. Liner Pattern	-	நேர்கோட்டு குடியிருப்புகள்
7. Circular / semicircular pattern	-	வட்ட வடிவ(அ)அரை வட்ட வடிவ குடியிருப்புகள்
8. Star like pattern	-	நட்சத்திர வடிவ குடியிருப்பு
9. Triangular pattern	-	முக்கோண வடிவ குடியிருப்பு
10. Social forestry	-	சமுதாயக் காடுகள்
11. Fracking	-	பாறைகளை உடைக்க பயன்படுத்தும் நவீன தொழில் நுட்பம்

ICT CORNER

MAN AND ENVIRONMENT

Through this activity, you will know about the population growth from the ancient age to the present.



Procedure

Step 1: Use the URL or scan the QR code to open the activity page.

Step 2: Click the 'Change Projection' to explore the map and data from the globe

Step 3: Click the' Reset Map' button to reset the map to starting position.

Step 4: Click the ' Play' button in timeline to show the gradual growth of population .

Step1

Step2

Step3

Step4

URL:

https://worldpopulationhistory.org/ (or) scan the QR Code

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*Pictures are indicatives only.

UNIT 2

MAPPING SKILLS

Learning objectives

- To introduce maps
- To read maps using its components
- To learn the methods of surveying and other techniques of acquiring map data like aerial photography and satellite remote sensing
- To gain knowledge of the latest techniques of mapping, namely GIS, GNSS and web mapping

GKGP6D

With maps on hand, one can see the world in one sweep. A map is worth a thousand words. Mapping skills are the basics to understand a map and to interpret the area depicted. Maps are introduced with its components such as scale, signs and symbols. Surveying is the process of recording the measurement of a land area. Its outcomes are the data sources of maps. This lesson deals with the latest techniques of mapping - remote sensing, GPS, GIS, global navigation system and web maps of the 21st century.

1 Map as a Tool

A map is the basic tool of a geographer. It illustrates the earth's surface clearly and effectively through a combination of drawings, words and symbols. Thus, maps form an integral part of teaching geography. A map is a location guide.

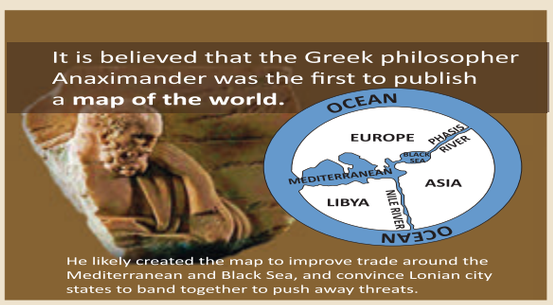
1.1 History of Mapping

The ancient Babylonians, Romans, Greeks and Egyptians were the first people to create maps. For thousands of years, most people thought that the earth was flat.

For many centuries, hand-drawn flat maps and charts assembled from information collected visually by explorers were produced. As early as 300 BC(BCE), the ancient Greeks theorised that the earth was round and discarded maps of a flat earth. Herodotus, Anaximander, Pythagoras, Eratosthenes, Ptolemy and Al Idrisi were some of the major contributors who mapped the world.

DO YOU KNOW?

More commonly known as the Babylonian Map of the World, the Imago Mundi is considered the oldest surviving world map. It is currently on display at the British Museum in London. It dates back to between 700 and 500 BC(BCE) and was found in a town called Sippar in Iraq. The carved map depicts Babylon at the centre. Nearby are places like Assyria and Elam, all surrounded by a "Salt Sea" forming a ring around the cities. Outside the ring, eight islands or regions are carved onto the tablet. The map is accompanied by a cuneiform text describing Babylonian mythology in the regions depicted on the stone.



Anaximander was the first ancient Greek to draw a map of the known world. It is for this reason that he is considered by many to be the first map maker (the first cartographer).

The introduction of printing press during the 12th century in China and 15th century in Europe helped to produce more maps. Spanish adventurers made maps of North America as the continent was explored during the 15th century. **Gerardus Mercator** from Belgium was the leading cartographer of the mid-16th century, who developed projections in map making. The uses of aerial photographs and satellite imageries stimulated map-making in the nineteenth and twentieth centuries.

The foundation for map-making in India was laid during the Vedic period. Mahabharata conceived a round world surrounded by water. Surveying and map-making were an integral part of the revenue collection procedure in the medieval period. E.g.: Sher Shah Suri's revenue maps and Rajendra Chola's land survey techniques. Today, the Survey of India produces maps at different scales for the entire country.

DO YOU KNOW?

A cartographer is one who measures, analyzes and interprets geographical information to create maps and charts for political, cultural and educational purposes.

1.2 Maps and Cartography

Maps are drawings of an area as seen from above. A map is defined as the miniature image of the 3 dimensional earth's surface on a paper/cloth or any flat surface. Maps can show a whole or part of the world. Maps are drawn to a scale and direction. Maps have legends to explain the meaning of symbols and colours used on it. The art of map - making is called **Cartography**.

Flat Earth Map

ASIA - POLITICAL

1.3 Components of a map

A map should include the following components namely, the title, scale, direction, grid system, projection, legend, conventional signs and symbols.

GKQK81

(A) Title

It indicates the purpose or theme of the map. Example: India – Physical, World – Political, Tamil Nadu – Transport.

(B) Scale

Scale makes it possible to reduce the size of the whole earth to show it on a piece of paper. A scale is a ratio between the actual distance on the map to the actual distance on the ground. Scales can be represented in three methods. They are the **Statement, Representative Fraction (R.F) and Linear or Graphical scale methods.**

Statement scale

The statement scale describes the relationship of map distance to ground distance in words, such as one centimetre to ten kilometres. It is expressed as 1cm = 10 km.

The Representative Fraction (R.F)

It describes the proportion or ratio of the map distance to ground distance. It is usually abbreviated as R.F. It is stated as 1/100000 (or) 1:100000. This means that one unit on the map represents 100,000 of the same unit on the ground. This unit may be an inch or a centimetre or any other linear measurement unit. Thus,

Representative Fraction (R.F.) = $\frac{\text{Distance on the map}}{\text{Distance on the ground}}$

For example: To find the RF when the scale is 1 cm to 1km. Here, 1 cm =1 km

According to the formula, R.F= $\frac{1\,cm}{1\,km}$

Convert the km to cm. Therefore, 1km =100000 cm. So, RF. is 1:100000.

Find the R.F. when the scale is 1 centimetre to 2 kilometre.

Linear (or) Graphical scale

In a map, a linear scale is represented by a straight line divided into equal parts (Primary and secondary) to show what these markings represent on the actual ground. This scale helps in the direct measurement of distance on the map.

Linear scale model

(Graphic Scale)

1/50,000 (fractional scale)
1:50,000 (ratio)
1 unit on the map represents 50,000 units in the real world.

(C) Direction

Maps are drawn normally with north orientation. North direction in a map is always towards the North Pole of the earth. If you position yourself looking at the North Pole, on your right will be the east; your left will be the west; at your back will be south. These four main directions are called the cardinal directions. Direction is usually indicated on a map by a North-South line, with the North direction represented by an arrow head.

Activity

Imagine you are standing in India facing north, find in which direction are the following located using the map given below

Saudi Arabia _____

Myanmar _____

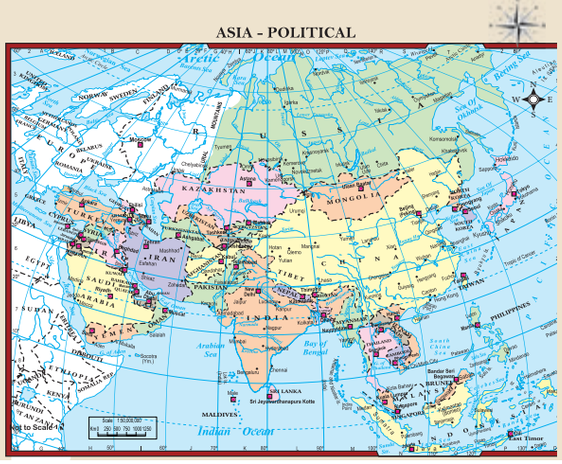
China _____

Indian ocean _____

Kazakhstan _____

Sumatra _____

Afghanistan _____



Mnemonic device or memory technique to recall cardinal directions is the sentence "Never Eat Soggy Wheaties." (North, East, South and West)

(D) Grid System

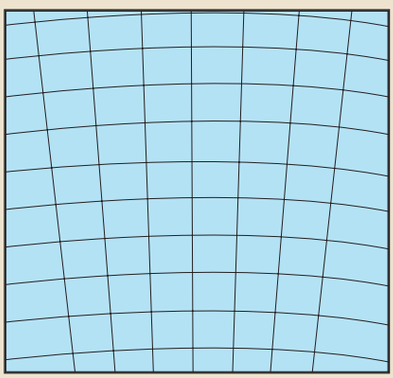
The location of a place can be simply defined by its latitude and longitude. In normal practice, latitude is stated first and then comes the longitude. The latitude and longitude of a place can be expressed in units of **degree, minutes and seconds**.

A grid is a set of lines with alphanumeric codes for defining a location on a map in many topographical sheets. The lines that run horizontally from left to right of the map are known as **northings**, whereas, the lines that run vertically from the top to the bottom of the map are called **eastings**. The points at which the vertical and horizontal lines of the grid intersect are called **coordinates** which are identified by numbers or letters.

The mainland of India extends from 8°4'N to 37°6'N latitude and from 68°7' E to 97°25' E longitude. Here, (°) is degree and (') is minutes.

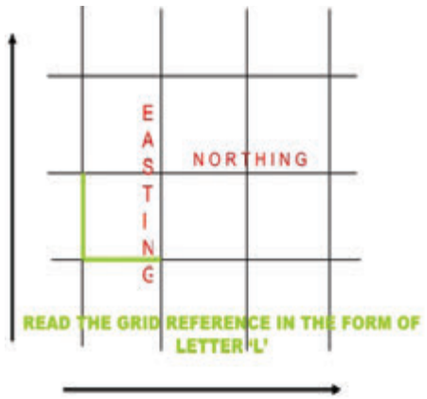
Activity

Use grids to enlarge Australia.



(E) Projection

A map projection is a way of showing the spherical shaped earth on a flat piece of paper. Where does the word 'projection' come from? Imagine a clear globe with latitude and longitude lines and the outlines of the landmasses on it. Suppose there was a light bulb inside the globe. If you wrapped a piece of paper around the globe and turned on the light bulb, the outlines of the grid and landmasses would be projected onto the paper. Map projection is defined as the transformation of spherical network of latitudes and longitudes on a plane surface. Projections are drawn to maintain the **shape, area and directions**.



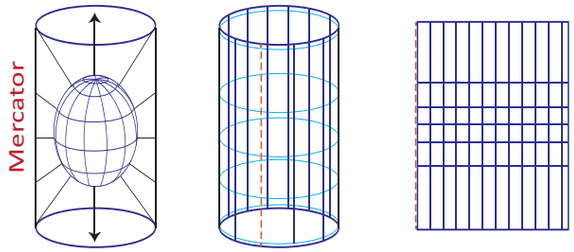
The actual shape of the Earth is termed Geoid, which is an oblate spheroid.

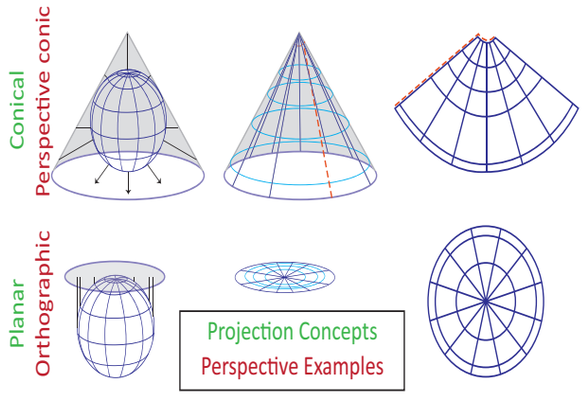
The "azimuthal" polar projection is depicted on the United Nations flag.

North America was prominent on the initial 1945 UN flag (which had the longitude line 90 degrees west pointing upwards). The following year, the map on the flag was reoriented to be more neutral by having the International Date Line (180 degrees east, lying in the middle of the Pacific Ocean) pointing upwards. The map ends at 60 degrees South latitude, meaning Antarctica does not appear.

The three methods in widest use are as follows:

- Projection on the surface of a cylinder
- Projection on to the surface of a cone
- Projection directly onto a flat plane, called planar or zenithal or azimuthal projection





(F) Legend

The legend of a map helps to understand the map details which are placed at the left or right corner at the bottom of the map.

(G) Conventional signs and symbols

A map is a global language and it needs to be drawn according to the international standards. Conventional signs and symbols are standard symbols used on a map and explained in the legend to convey a definite meaning. The topographic map contains a variety of information about physical and cultural features. These are shown by using signs and symbols in various colours so that the clarity of the map is maintained.

There are three types of map symbols

1. **Point Symbols** - buildings, dipping tanks, trigonometrical beacons
2. **Line Symbols** - railways, roads, power lines, telephone lines
3. **Area Symbols** - Cultivated lands, ponds, orchards and vineyards

The following colour codes are used with map symbols

1. **Brown:** land or earth features - contour lines, eroded areas, prominent rock outcrops, sand areas and dunes, secondary or gravel roads
2. **Light Blue:** water features - canals, coastlines, dams, lakes, marshes, swamps and levees, ponds, rivers and water towers.
3. **Dark Blue:** national waterways
4. **Green:** vegetation features - cultivated fields, golf courses, nature and game reserve boundaries, orchards and vineyards, recreation grounds, woodland
5. **Black:** construction features - roads, tracks, railways, buildings, bridges, cemeteries, communication towers, dam walls, excavations and mine dumps, telelphone lines, power lines, windpumps, boundaries
6. **Red:** construction features - national, arterial and main roads, lighthouses and marine lights
7. **Pink:** international boundaries

Conventional Signs and Symbols

	Fort		Metalled Road
	Church		Cart track
	Pagoda		Pack-track
	Graveyard		Foot-path with bridge
	Chhatri		Aerodrome
	Mosque		Light-house
	Temple		Electric power Line
PO	Post Office		Perennial Stream
PS	Police Station		Dry Stream
RH	Rest House		Canal
CH	Circuit House		Dry River
IB	Inspection Bunglow		Dam with masonry work
RS	Railway station		Dam with earth work
	Broad Gauge Railway		Permenant Hut
	Level Crossing		Temporary Hut
	Metalled Road		Tower Antiquities

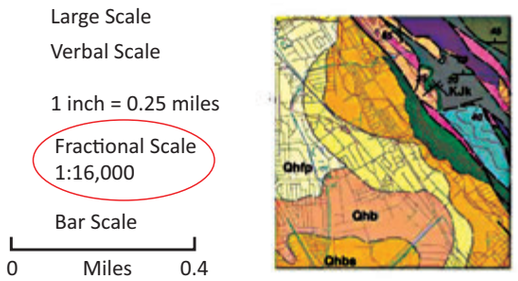
1.4. Classification of Maps

It is not possible to show all the data of an area on a map. The details that are to be shown may vary according to requirement. Therefore, it is essential to consider the scale and purpose while preparing maps.

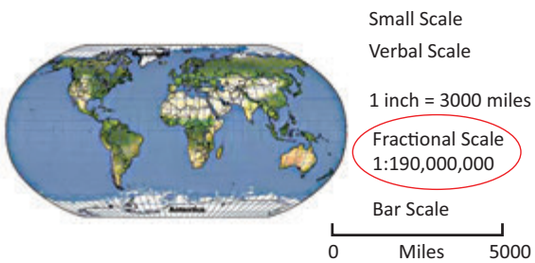
Types of Maps

a) On the basis of scale, maps can be classified into:

- **Large scale maps**: Large amount of detail; can only show a small area.



- **Small scale map**: Small amount of detail; can show a large area.



b) On the basis of utility and purpose, they are classified as:

- General maps / Topographic Maps (physical and political maps)
- Thematic map (spatial variations of single phenomena)
- Special purpose maps (Braille maps for blind people, maps for neo literates, military maps, navigational charts, etc).

Presume a tourist wants to enjoy a holiday at a place. What type of map should he look for?

Obviously, a tourist map or a travelogue.

A travelogue includes all the information required by a tourist like communication, transportation, hotels, tourist spots, health centres, ATM, petrol stations etc.

Topographical maps and weather maps

Topographical maps show main features like landforms, water features, forests, settlements, agricultural fields, other land use, transportation and communication networks. These maps are general purpose maps and are drawn at quite large scales. The Survey of India prepares the topographical maps in India for the entire country.

A weather map is the technique of meteorologists to display all the weather data recorded at various stations of a country at a particular point of time into a compact outline map using symbols and isolines. A weather map, otherwise called a synoptic chart, helps in weather analysis and weather forecast of the country/region for the next two to three days.

Weather station symbols

Symbols	Meaning
	Drizzle
	Rain
	Snow
	Shower(s)
	Thunderstorm (thunder is heard or lightning detected, even if no precipitation)
	Fog (with visibility < 5/8 statute mile)
	Sand Storm
	Dust Storm
	Drifting snow
	Blowing snow

1.5. Survey

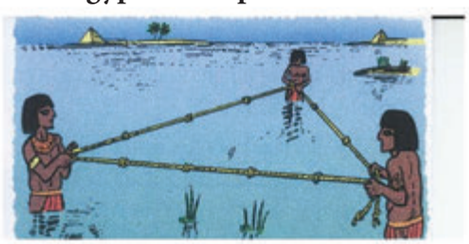
Surveying is done to measure the angle, direction, area, height and distance of an object or place on the surface of the earth using instruments. Surveying techniques are used to obtain the field data and to prepare maps. A knowledge of surveying helps one in map-making, particularly in the preparation of physical maps.

Geographers mainly use **Chain, Prismatic compass, Plane table, Dumpy level, Abney level, Clinometre, Theodolite, Total Station** and **GNSS** to measure the distance, angle, altitude and position of the area of survey.

Modern survey tools used by geographers for map making.

Early History of Surveying: In Egypt, surveyors were called 'rope stretchers' because they used ropes to measure distances.

The Egyptian 'Rope Stretchers'



2 REMOTE SENSING AS A SOURCE OF MAP DATA

Remote Sensing refers to the observation and measurement of earthly objects without touching them.

'**Remote**' means far away and '**Sensing**' means observing or collecting information. Remote sensing means acquiring information of things/places from a distance, using a variety of tools and methods.

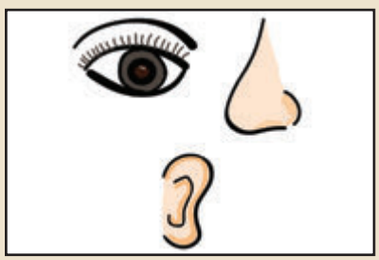
DO YOU KNOW?

We operate three remote sensing organs in our body.

a) Eyes -sense of sight

b) Nose - sense of smell

c) Ear – Sense of hearing



Remote sensing has a long history, dating back from the use of cameras carried by balloons and pigeons in the 18th and 19th centuries. During the 20th century, airborne photographs and satellite remote sensing developed swiftly.

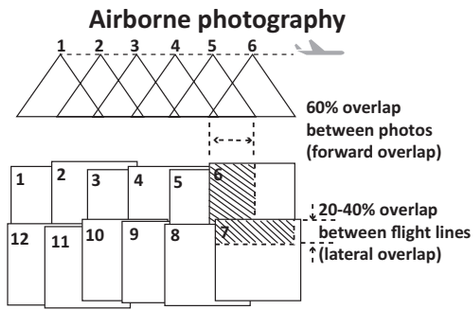
2.1. Aerial photography

Aerial photography refers to the technique of obtaining information about places or objects or phenomena with the help of photographs taken using cameras mounted on low flying birds, balloons, helicopters, aeroplanes and drones. The aerial photographs are captured continuously with a time gap of 10-30 seconds at a fixed height. Each photo will have a slight overlap of the area in the preceding photo. By making a mosaic of all the photos excluding the overlapping areas,

a stereoscopic (3D) image of the study area can be produced.

DO YOU KNOW?

Felix Nadar was a French photographer, journalist, novelist and balloonist. In 1858, he became the first person to take aerial photographs. He took his first photograph in 1853 and pioneered the use of artificial lighting in photography, working in the catacombs of Paris. Around 1863, Nadar built a huge (6000 m^3) balloon named Le Géant ('The Giant').



Aerial photography using drone in the techno world

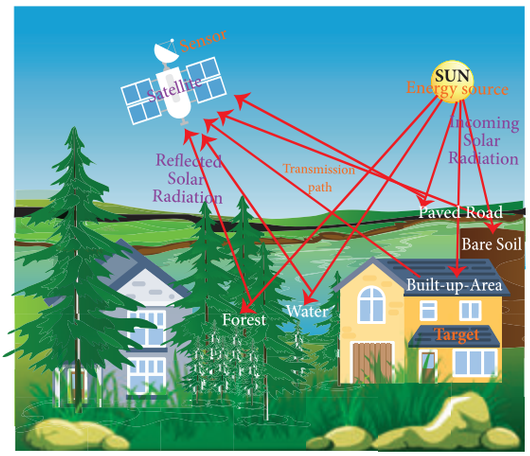
Nowadays you might have seen drones being used for photography during grand occasions such as conferences, weddings, etc.

2.2 Satellite Remote Sensing

Satellite remote sensing is the science of collecting data about an object or area from artificial satellites orbiting the Earth. The term 'satellite imagery' refers to digitally transmitted images of the satellites.

Components of remote sensing

- Energy source
- Transmission path
- Target
- Sensor



2.3 Process of remote sensing

(A) The EMR (Electro Magnetic Radiation) **or** solar radiation is the primary source of energy for remote sensing.

(B) Sunlight travels from the sun through the atmosphere, before it reaches the earth surface. In the atmosphere, the sun's rays are not obstructed by any object.

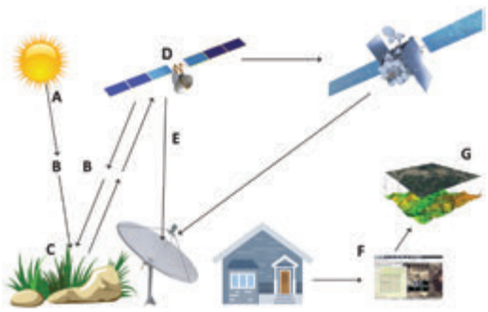
(C) When solar radiation falls on the earth's surface, some of its energy is absorbed. While some is transmitted through the surface, the rest is reflected. Surfaces naturally emit radiation in the form of heat. The reflected energy travels from the earth surface back to space.

(D) Sensors in the satellite record the reflected and emitted radiation. Each surface/object possesses a characteristic spectral signature, a unique pattern of reflecting sunlight.

(E) The energy recorded by the sensor has to be transmitted to a ground station where the data are processed into an image.

(F) The processed image is interpreted either visually by human interpreters or by computer aided techniques called digital image processing to identify and distinguish between the different spectral signatures to get information about objects/places.

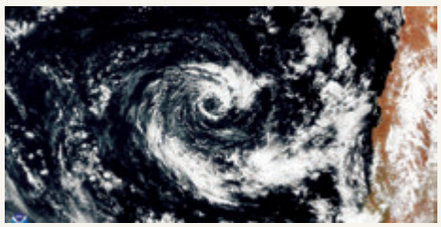
(G) Finally, we understand and apply the extracted information in mapping the area or assist in solving the particular problem.



A. Source of Electromagnetic Radiation
B. Radiation comes into contact with Atmosphere
C. Radiation interacts with the Target
D. Sensor collects and records Electro Magnetic Radiation
E. Recorded Energy Transmitted to processing station (for copy)
F. Processed image interpreted to extract target information
G. Application

DO YOU KNOW?

Remote sensing can be either **passive** or **active. Active systems** emit their own source of light energy such as **RADAR**, whereas **passive systems** depend on **sunlight** as energy source.

Satellite remote sensing	Aerial Photography
	
■ High cost of satellite systems. Takes at least 10 years to plan, construct, test and launch. ■ Satellites collect large amount of data of the entire area in a short span. ■ It allows global coverage and does not require permission. ■ Satellites circle the Earth; they can repeat and revisit easily. ■ Weather does not affect the functioning of satellites. ■ All information is digital; it can be easily integrated with software for image improvement.	■ Surveying can be planned and executed in a shorter time economically. ■ Takes more time to capture an area. Aircraft needs to fly back and forth. ■ It covers a small area and needs permission from authorities. ■ Revisits or repeatability involves extra cost. ■ Adversely affected by bad weather ■ It is an analogue record, so no further improvement is possible after obtaining photographs.

Advantages of Remote sensing

- It is the only practical way to obtain data from inaccessible regions, e.g. Antarctica, Amazon forest.
- It helps in constructing cheap base maps in the absence of detailed land surveys.
- It detects the spread of natural calamities such as flood, forest fire and volcanic eruption, so that immediate rescue operations and planning can be carried out.

Disadvantages of Remote sensing

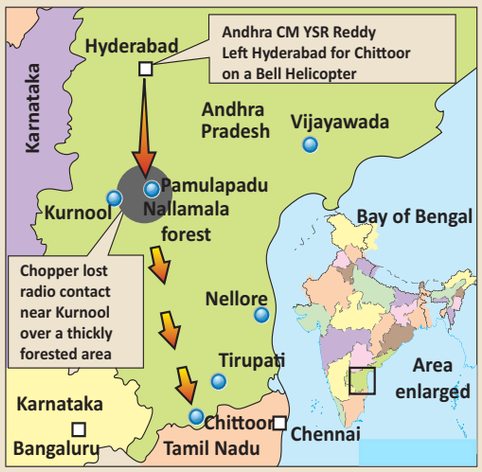
- It is difficult to prepare large scale maps from obtained satellite data.
- The technique is very expensive for small areas requiring one time analysis.

Remote sensing and Disaster Management

Remote sensing technology is highly used in disaster management to study the effects of earthquakes, tsunamis, cyclones, volcanic eruption, floods and wildfires.

Recent usage of Remote Sensing device in India and Malaysia

The whereabouts of the former Andhra Pradesh Chief Minister Y.S. Rajasekhara Reddy remained uncertain, after a helicopter carrying him went missing over a dense forest area prompting a continuing massive search operation on September 3rd, 2009. Low flying Air craft of the National Remote Sensing Agency has taken 41 imagery photographs of Nallamala forest area where the search operations were undergone to pick metal signals. ISRO processed the photographs in Hyderabad.



Overview of remote sensing application for search of missing Malaysia Airline MH370

This Boeing Commercial Airplane had disappeared on 8 March 2014 with 237 passengers onboard from Kuala Lumpur to Beijing. Numerous satellite images from diverse times, day and night, were used for the search for the missing flight. It became the most expensive search in aviation history, relying mostly on analysis of data from the **Inmarsat** (British satellite) to look into the airplane, flight data recorder and cockpit voice recorder, as well as the possible path. Search for oil slicks or debris or a piece of wing from MH370 with satellite image processing using ENVI software was done by thousands of volunteers. After analyzing the 23 March 2014 satellite imagery, two weeks after MH370 disappeared, 12 objects in the ocean classifying as "probably man-made", were found to suspect the burst of the flight. The communications between Flight 370 and the satellite communication network relayed by the Inmarsat-3 F1 satellite provided significant clues to the location of Flight 370. The search goes on with no confirmed results yet.

The preliminary data is retrieved from satellites like LANDSAT, CARTOSAT, OCEANSAT, etc. Fire and flood details can be extracted and delivered to relevant authorities within two hours of satellite image capture. E.g. major earthquakes in China and New Zealand, bushfire in Victoria and floods in Kerala. Dynamic phenomena such as flood, movement of wild animals, shoreline changes, finding lost ships and planes. Researchers use satellite imageries for these.

DO YOU KNOW?

People cannot be tracked generally by satellite or aerial photographs but they can be tracked by their mobile phone signals.

2.4 Global Navigation Satellite System (GNSS)

Have you ever booked a cab using a smart phone app? Did you see the map showing the route of your travel and movement of your vehicle on mobile phones? How is it possible to calculate the time duration of your travel?

In the 21st century, GNSS has become a part of our lives to promote the safety and convenience of transport. Global Navigation Satellite System (GNSS) is a satellite system connected with a small electronic receiver or tracker to locate, monitor and track a user's vehicle wherever in the world. It can also set up instant alerts when a driver of a vehicle speeds or deviates from a particular area. GNSS applications are used in tracking or mapping vehicles, ships and aircraft. A group of satellites (Space Segment) working with a network of ground stations (Control Segment) provide location data. The receiver (User Segment) converts satellite signals into location, speed and time data.

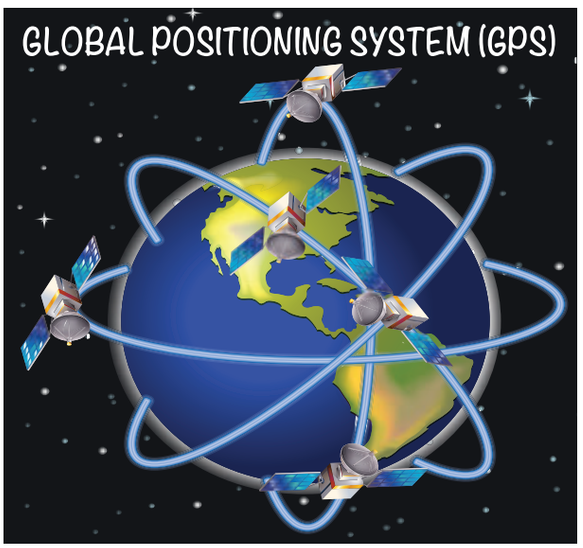
Examples of GNSS

- Europe's Galileo
- USA's NAVSTAR Global Positioning System (GPS)
- Russia's Global'naya Navigatsionnaya Sputnikovaya Sistema (GLONASS)
- China's BeiDou Navigation Satellite System
- India's NAVIC satellite system

a. Global Positioning System (GPS)

GKZG9N

Without the Global Positioning System (**GPS**) on our vehicles and mobile phones, we would feel lost. GPS is the U.S. implementation of the world's first and currently the most used Global Navigation Satellite System (GNSS) created by the U. S. Department Of Defense (**DOD**). It became fully operational in 1995. **NAVSTAR** (Navigation Satellite Timing and Ranging) is a network of



24 U.S. satellites in six different orbits in space flying 20,350 km above the surface of the Earth; each one circles the planet twice a day to provide continuous, worldwide coverage. GPS receivers now come in all shapes and sizes, Most are the size of a cellular phone. Some are handheld, others are installed in ships, planes, trucks and cars.

Advantages of GPS

- GPS technology has tremendous applications in everything from mobile phones, watches, bulldozers, shipping containers and ATMs.

- The main purpose of GPS is to help in providing accurate transport data (distance, route and direction). It helps in military searches and rescue in wars. It can work as a reliable tourist guide.
- GPS helps during accident and rescue efforts, speeding the delivery of emergency services and disaster relief.
- Weather forecasting, earthquake monitoring and environmental protection can be done effectively by using GPS.

b. Geographic Information System (GIS)

Geographic Information System is a computer-based tool for managing a large amount of data collected for a given geographic region through remote sensing, GPS and other sources. The Geographic Information System is a combination of computer hardware, software, geographic data and the personnel.

G - Geographic - A particular area
I - Information - facts in order
S - System - arrangement

GIS was first recognised in the late 1950s by Waldo Tobler and Roger Tomlinson (Canada). Prime examples of importing GIS for public welfare are Google Maps, Yahoo Maps and Google Earth.

The key ingredient is location. We must have a coordinate, an address or a distance from a known point that helps us to link the information to a location on a map. Each type of data of an area is stored as a separate 'layer' of the map. In GIS, layers may be used some times and removed according to need. Examples are hospitals, schools, water bodies, parks and ATMs. The computers can create maps showing any combination of data.

Advantages of GIS

- Maps produced by GIS analysis can be used to pinpoint problem areas.
- GIS finds its strongest use in resources management, telecommunications and urban and regional planning.
- GIS helps in planning the land-use requirements. The local government uses GIS for taxation and planning.

The hardware and software functions of a GIS include

- Data input and verification
- Compilation
- Storage
- Updating and changing
- Management and exchange
- Manipulation
- Retrieval and presentation
- Analysis and combination

Cyber cartography is a term that is used to define all the aspects of current state of Web and virtual mapping.

3 BHUVAN

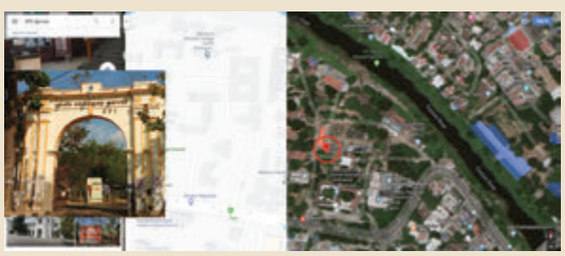
Bhuvan (Sanskrit for Earth) is a free internet based computer application launched by the **Indian Space Research Organization** (ISRO) on August 12th 2009. It enables visualization of Indian Remote Sensing (IRS) images taken over a year ago, by ISRO's seven satellites, including CartoSat-1 and CartoSat-2. Using Bhuvan connected to Internet, one can explore places of interest, scenes of events in the news or parts around the world they may never visit in person, by either entering the names of places or co-ordinates (latitudes and longitudes). Bhuvan has tremendous uses for scientists, academicians, policy makers and the general public.

Advantages

- Bhuvan, due to 3D rendering, gives the impression of moving through real space through the entire globe
- Students can use Bhuvan to understand subjects ranging from Sciences to History of places.
- It provides information on natural resources and timely information on disasters.
- Administrators use it for monitoring various developmental schemes.

DO YOU KNOW?

Geographical objects in the real world are matched to program objects known as *geo objects*. Geo objects include placemarks, circles, polylines, rectangles, polygons and their collections. Place markers indicate a place on a map.



3.1 Google Earth

Google Earth is a web based computer application. Google Earth is a virtual globe that renders a 3D representation of the Earth. It combines the power of Google Search with maps, satellite imageries, aerial photographs, GIS data and 3D buildings to visualize the world. Google Earth allows users to see cities and buildings looking perpendicularly down or at a tilted angle. Google Earth allows users to search for addresses of some countries, enter coordinates or simply use the mouse to browse a location. Google Earth also has Digital Elevation Model (DEM) data for many major cities. This means one can view Mount Everest or buildings in three dimensions, instead of 2D.

Do you want to locate your house using Google Earth? Follow the following steps

1) Start Google Earth by double-clicking on the Google Earth Icon or browse the icon in the 'Start' menu. This will start the program.

   The entire Earth (as a globe) will be shown by default.

2) Close Start-Up-Tip and start to explore and familiarize yourself with the Google Earth main menu on the top left on your screen,.

3) Windows-based: Click on 'Tools', select 'Options' and note the five tabs across the top of the 'Options' box.

   Mac-based: Under the Google Earth' main menu select 'Preferences'

In the '3D View' tab in the 'Terrain' box near the bottom, set 'Elevation Exaggeration' to '3'. Click 'Apply' to close the box. This will exaggerate the elevation relief by a factor of 3.

Google Earth Options '3D View' tab with 'Terrain' Elevation Exaggeration circled in red.

With development of such tools enabling flexible ways of viewing and interacting with geographic information, the ability of users to understand the information presented and the overall understanding of the world around us will surely progress.

Recap

- Surveying is the process of recording the measurements of a land area.
- Anaximander was the first ancient Greek to draw a map of the known world.
- Maps can show the whole or a part of the world.
- The art and science of map making is called Cartography.
- A map should include certain components namely, the title, scale, direction, grid reference, projection, legend, conventional signs and symbols.
- Grids are sets of lines for defining a location on a map.
- Remote sensing means acquiring information of things / places from a distance.
- Global Navigation Satellite System (GNSS) helps to locate, monitor and track a user's vehicle anywhere in the world.
- GIS is a combination of computer hardware, software, geographic data and the personnel.

A-Z GLOSSARY

Miniature - A very small copy of an object.

Spatial - Relating to the position, area and size of things.

Topography - The physical appearance of the natural features of an area of land, especially the shape of its surface.

E.M.R - Electro Magnetic Radiation (EMR) is energy that is propagated through free space or through a material medium in the form of electromagnetic waves, such as radio waves, visible light and gamma rays. The term also refers to the emission and transmission of such radiant energy.

Spectral signature - The relationship between the wavelength (or frequency) of Electro Magnetic Radiation and the reflectance of the surface.

Interpreter - Someone whose job is to change what someone else is saying into another language:

Satellite imagery - Images of Earth or other planets collected by imaging satellites operated by governments and businesses around the world

3 D - Three-dimensional model (width, depth and height) that displays a picture or item in a form that appears to be physically present with a designated structure.

2 D - A two-dimensional object or figure is flat, so that only its length and width can be measured.

EXERCISE

I. Choose the best answer

1. The new phase in topographical surveying in the 20th century is _____.
   a) toposheets b) aerial photography
   c) maps d) satellite imagery
2. _____ indicates the purpose or theme of the map.
   a) Title b) Scale
   c) Direction d) Legend
3. Standard symbols that are used in maps to convey a definite meaning are called _____.
   a) conventional signs and symbols
   b) coordinates
   c) grid references
   d) directions
4. Which one of the following maps show us a very large area with less details? _____.
   a) Large scale b) Thematic
   c) Physical d) Small scale
5. GPS consists of a constellation of _____ satellites.
   a) 7 b) 24
   c) 32 d) 64

II. Consider the given statements and choose the right option given below

1. **Assertion (A)**: The points at which the vertical and horizontal lines of the grid intersect are called coordinates.
   Reason (R): The lines that run horizontally and vertically are called Northings and Eastings respectively.
   (a) Both (A) and (R) are true ; (R) explains (A)
   (b) Both (A) and (R) are true ; (R) does not explain (A)
   (c) (A) is correct ; (R) is false
   (d) (A) is false ; (R) is true
2. **Assertion** (A) The legend of a map does not help us to understand the information in a map.
   Reason (R) It is usually placed at the left or right corner at the bottom of the map.
   (a) (A) is false ; (R) is true
   (b) Both (A) and (R) are true ; (R) does not explain (A)
   (c) (A) is correct ; (R) is false
   (d) Both (A) and (R) are true ; (R) explains (A)

III. Match the following

1. The art and science of mapping	-	a) USA
2. Thematic mapping	-	b) Geoid
3. Actual shape of the earth	-	c) Inmarsat
4. A satellite	-	d) Political map
5. NAVSTAR	-	e) Cartography

IV. Answer in brief

1. Name the different methods to represent the Earth.
2. What is a map?
3. What are the components of a map?
4. The distance between two cities A and B is 5 km. It is represented by a line of 5 cm on the map. Calculate the distance and give the answer in RF.
5. Mention a few surveying instruments.
6. Define remote sensing.
7. What are the components of remote sensing?

V. Give Reasons

1. Satellite imageries stimulate map making.
2. Map is the basic tool of a geographer.
3. Grid references are essential to find the exact location of places on a map.
4. Web cartography is one of the modern mapping techniques.

VI. Distinguish Between The Following

1. Globe and Map
2. Large scale map and small scale map
3. Aerial photographs and satellite imageries
4. GIS and GPS

VII. Answer in Paragraph

1. What do you mean by the term 'scale of the map'? Explain its classification.
2. Write a note on directions with relevant diagram.
3. Explain the major uses of GPS? Explain about any one.
4. Bhuvan has tremendous uses for scientists, policy makers and the general public. Justify.

VIII. HOTS

1. Can you imagine a world without satellites?
2. Imagine you are a cartographer. Draw the map of your area.

IX. MAP EXCERCISE:

1. With the help of an atlas, mark the following on the outline map of Tamil Nadu.
   - *a*) The latitude and longitude of Chennai.
   - *b*) Mark the city located at 10^{0} N, 78^{0} E.
   - *c*) Locate the city approximately on 11^{0}N and 76^{0}E.
   - *d*) Find the latitude and longitude of Kanyakumari and mark it.

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INTERNET RESOURCES

www.usgs.gov.in
www.nasa.gov.in
www.surveyofindia.gov.in
https://bhuvan.nrsc.gov.in
https://www.isro.gov.in

A-Z கலைச் சொற்கள்

1.	Miniature	–	ஒரு பொருளின் மிகச்சிறிய அளவிலான மாதிரி
2.	Spatial	–	பொருள்களின் இடஅமைவு, பரப்பு மற்றும் அளவு சார்ந்தவை
3.	Topography	–	நிலப்பரப்பின் இயற்கை தோற்றம்
4.	E.M.R. (Electro Magnetic Radiation)	–	மின்காந்தக் கதிர்வீச்சு
5.	Spectral Signature	–	நிறமாலைக் குறியீடு
6.	Interpreter	–	மொழி பெயர்ப்பாளர்
7.	Satellite imagery	–	செயற்கைக்கோள் பதிமம்
8.	3D – (Three Dimensional)	–	முப்பரிமாண
9.	2D – (Two Dimensional)	–	இருபரிமாண

ICT CORNER

MAPPING SKILL

Through this activity, you will know about the distance between any two landmarks in the maps.

Procedure

Step 1: Use the URL or scan the QR code to open the activity page.

Step 2: Click 'Polyline' button. Draw a poly line between any two favourable places.

Step 3: After finishing, the Poly line shows the measurement of distance as miles and kilometres.

Step 4: Click '+' and '-'button to zoom in and zoom out.

Step1

Step2

Step3

Step4

URL:

https://mapmaker.nationalgeographic.org/ (or) scan the QR Code

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*Pictures are indicatives only.

UNIT 3

Disaster Management: Responding to Disasters

Learning objectives

- To know the phases of disaster management.
- To understand how to respond to disaster such as Tsunami, earthquake, riot and fire.
- To describe the measures to manage riots and such as disaster.

GLI8CY

Case Study - Tsunami

Shortly before 8 am on 26 December 2004, the cicadas fell silent and the ground shook in dismay. The Moken, an isolated tribe on the Andaman Islands in the Indian Ocean, knew that the Laboon, the 'wave that eats people', had stirred from his ocean lair. The Moken also knew what was next: a towering wall of water washing over their island, cleansing it of all that was evil and impure. To heed the Laboon's warning signs, elders told their children, run to high ground. 'If the water recedes after an earthquake, run immediately to high ground'

The tiny Andaman and Nicobar Islands were directly in the path of the tsunami generated by the magnitude 9.1 of earthquake off the coast of Sumatra. Final total put the islands' death toll at 1,879 alone with another 5,600 people missing. The islanders who had heard the stories about the Laboon or similar mythological figures survived the tsunami essentially unscathed. Most of the casualties that occurred in the southern Nicobar Islands were outsiders, leaving them with no indigenous tsunami warning system to guide them to higher ground.

So, humans have passed down stories through the ages that helped cultures to cope when disaster inevitably struck. These stories were fodder for anthropologists and social scientists, but in the past decade, geologists have begun to pay more attention to how indigenous people understood and prepared for disaster. These stories, which couched myth

in metaphor, could ultimately help scientists prepare for cataclysms to come. In this lesson, you will learn about how to respond to certain disasters to become resilient.

A disaster is "a catastrophe that causes great damage or loss of life and property".

Disaster Response

Disaster response entails restoring physical facilities, rehabilitation of affected population, restoration of lost livelihoods and reconstruction efforts to restore the infrastructure lost or damaged. The Response Phase focuses primarily on emergency relief: saving lives, providing first aid, restoring damaged systems (communications and transportation), meeting the basic life requirements of those impacted by disaster (food, water and shelter) and providing mental health and spiritual support and care.

Who are the first responders?

No matter how large or small, local communities are expected to provide immediate disaster response. On a daily basis, **police officers, firefighters, and emergency medical technicians** are a community's first responders, whether during fire, flood or acts of terrorism. Mental health professionals and the community's hospitals may also be activated in those early minutes and hours after disaster.

Disaster management includes Prevention, Mitigation, Preparedness, Response and Recovery. Disaster management involves all levels of government. Non-governmental and community based organizations play a vital role in the process. Modern disaster management goes beyond post-disaster assistance. It now includes pre-disaster planning and preparedness activities, organizational planning, training, information management, public relations and many other fields. Crisis management is important, but is only a part of the responsibility of a disaster manager.

Disaster Management Cycle

The traditional approach to disaster management has a number of phased sequences of action or a continuum. These can be represented as a disaster management cycle. We mainly focus on the way how the community should respond to disasters.

Earthquake

An earthquake is a sudden vibration of the part of the earth caused by plate movements. It occurs along the plate boundaries. The place inside the earth where an earthquake originates is **focus**. The point on the earth's surface above the called a focus is called an **epicentre**. The damage caused by the earthquake is the highest near the **epicentre**. The earthquake is measured by an instrument called a **Seismograph**. It is recorded in **Richter scale**. Let us now see how the communities can better respond to earthquakes.

How to respond to earthquake?

DO YOU KNOW?

1. Japan is in a very active seismic area and it has the densest seismic network in the world.

2. Which country actually has the most number of earthquakes? Indonesia is in a very active seismic zone also, but because it is larger than Japan, it has more earthquakes.

3. Which country has the most earthquakes per unit area? This would probably be Tonga, Fiji or Indonesia, since they are all in extremely active seismic areas along subduction zones.

What to do during an earthquake?

Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur later. Minimize your movements to a few steps that reach a safe place nearby and stay indoors until the shaking has stopped and you are sure exiting is safe.

If indoors

1. DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture and HOLD ON until the shaking stops. If there is no table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
2. Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
3. Stay away from glass windows, outside doors and walls and anything that could fall (such as lighting fixtures or furniture).
4. Stay inside until the shaking stops and go outside.

If outdoors

1. Move away from buildings, trees, streetlights and utility wires.
2. If you are in open space, stay there until the shaking stops. The greatest danger exists directly outside buildings at exits and alongside exterior walls. Most earthquake-related casualties result due to collapsing walls, flying glass and falling objects.

If in a moving vehicle

1. Stop as quickly as safety permits. Avoid stopping near or under buildings, trees, overpasses and utility wires.
2. Proceed cautiously once the earthquake has stopped. Avoid roads, bridges or ramps that might have been damaged by the earthquake.

Activity

Mock drill: Earthquake.

It is important that we know what to do if an earthquake occurs. In case we are inside the class when it occurs, instruct loudly "earth quake position – drop, cover, and hold on". Drop down on your knee. Cover your head, neck and face. Go under a table to protect your head and neck.

Tsunami

GLS4EL

A tsunami can kill or injure people and damage or destroy buildings and infrastructure as waves come forth and recede. A tsunami is a series of enormous ocean waves caused by earthquakes, underwater landslides, volcanic eruptions or asteroids. Tsunamis can travel 700-800 km per hour, with waves 10-30 meter high. It causes flooding and disrupts transportation, power, communications, and water supply.

How to respond to Tsunami?

1. You should find out if your home, school, workplace or other frequently visited locations are in tsunami hazard areas along the sea-shore.
2. Plan evacuation routes from your home, school, workplace, or any other place you could be, where tsunamis poses a risk.
3. Use a weather radio or stay tuned to a local radio or television station to keep informed of local watches and warnings.
4. Discuss tsunamis with your family. Everyone should be aware of what to do when tsunami strikes. Discussing tsunamis ahead of time will help reduce fear and save precious time in an emergency. Review flood safety and precautionary measures with your family.

What to do after a Tsunami?

1. You should continue using a weather radio or staying tuned to a Coast Guard emergency frequency station or a local radio or television station for updated emergency information.
2. Check yourself for injuries and get first aid if necessary, before helping injured or trapped persons.
3. If someone needs to be rescued, call professionals with the right equipment to help.
4. Help people who require special assistance, like Infants, elderly people, those without transportation, large families who may need additional help in an emergency situation, people with disabilities, and the people who care for them.
5. Stay out of a building if water remains around it. Tsunami water, like floodwater, can undermine foundations, causing buildings to sink, floors to crack, or walls to collapse.
6. Check for gas leaks. If you smell gas or hear a blowing or hissing noise, open a window and get everyone outside quickly.

Riot

Though riot may seem dramatic, an angry mob can be just as dangerous and unpredictable as just about any natural disaster. Thousands of people are killed in riots all over the world each year, and these riots erupt from a number of racial, religious, economic, political, or social causes that cannot be predetermined. As per Pew Research Center analysis of 198 countries on April 11, 2015. Syria tops in riot in the world followed by Nigeria, Iraq and India.

If you've found yourself in the middle of a riot, you may not be able to run away immediately, but you can take some measures to protect yourself from harm. If you want to know how to survive a riot, just follow these steps.

Surviving a Riot

At Travel Destination: What to Do

1. Keep abreast of the current news if you are in a volatile area.
2. If you come across a demonstration, don't become inquisitive, just leave the area and find another route to your intended destination.
3. Avoid any place where police or security forces action is in progress.

If caught in a riot:

1. If you find yourself caught up in a demonstration, keep to the edge of the crowd where it is safer. At the first opportunity, break away and seek refuge in a nearby building or find a suitable doorway or alley and stay there until the crowd passes.
2. When leaving the fringe of the demonstration, just walk away – don't run as this will draw attention to you.
3. In the event that you are arrested by the police/military, do not resist. Go along peacefully and contact your law advisor to help you resolve your predicament.
4. If you are caught up in the crowd, stay clear of glass shop fronts, moreover, move with the flow.
5. If shooting breaks out, drop to the ground and cover your head and neck, and lie as flat as you can.

Fire

Wildfires occur when vegetated areas are set alight and are particularly common during hot and dry periods. They can occur in forests, grasslands, bush and deserts, and with blowing wind, can spread rapidly.

Fires can lead to the destruction of buildings, wooden bridges and poles, power, transmission and telecommunication lines, warehouses containing oil products and other fuel. It causes injury to people and animals.

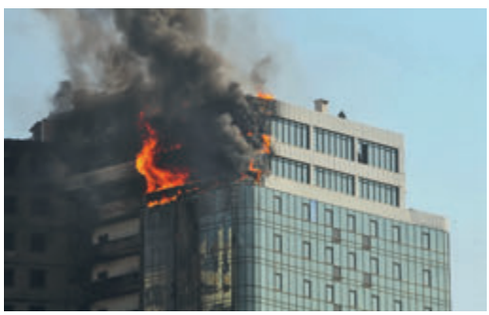
The most common causes of fires are lightning strikes, sparks during arid conditions, eruption of volcanoes and man-made fires arising from deliberate arson or accidents.

A side-effect of wildfires which also threatens inhabited areas is smoke. Fires create large quantities of smoke, which can be spread far by wind and poses a respiratory hazard.

On an average, in India, every year, about **25,000 persons die** due to fires and related causes. Female accounts for about 66% of those killed in fire accidents. It is estimated that about **42 females and 21 males die every day in India due to fire.**

Think why

Smoke kills more than fire.



Fire Safety Do's and Don'ts

1. Know your building's evacuation plan.
2. Evacuate calmly and quickly, whenever a fire alarm or carbon monoxide alarm sounds.
3. Before opening a door, feel it with the back of your hand. If the door is hot, do not open it.
4. If you encounter smoke during your evacuation, stay low to the floor.
5. Know the outside rally point for your building.
6. Know the locations of fire extinguishers, fire alarm pull stations and exits.

Activity

Mock Drill :

To escape a **fire**, **stop**, **drop**, and **roll**. In case your clothes burn, stop running, drop on the floor and roll to stop the fire spreading.

What you should do during a fire:

1. Stay calm.
2. Pull the nearest fire alarm or call 112.
3. Give your name and location of the fire. Do not hang up until the police dispatcher tells you to do so.
4. Leave the building immediately.
5. Inform others as you pass them to leave the building immediately.
6. Walk—don't run—to the nearest exit.
7. Never use elevators—an elevator may become a trap.

HOT

Why should you cut off all the branches of trees below 3 metres of height standing near your house?

A-Z GLOSSARY

Riot - An occasion where a large number of people behave in a noisy, violent and uncontrolled way

Lair - A place where a wild animal lives in

Unscathed - Without suffering any injury or damage

Cataclysms - large scale violent events in the natural world

Rehabilitation - Act of restoring someone to health or normal life through training and therapy

Mitigation - Action of reducing severity

Inquisitive - Curious about learning things

Predicament - unpleasant situation

Hostility - unfriendliness

Hazard - potential threat to life

Exercise

GM1ZG9

I. Choose the best answer

1. One among the following is not the first responder in case of a disaster.
   a. police officers
   b. firefighters
   c. insurance agents
   d. emergency medical technicians
2. 'Drop, Cover, Hold' is a mock drill a vowal for
   a. Fire
   b. Earthquake
   c. Tsunami
   d. Riot
3. When you happen to see a fire break out, you will make a call to
   a. 114
   b. 112
   c. 115
   d. 118
4. Which of the following statements is untrue?
   a. 'Stop, Drop, Roll' is for fire.
   b. 'Drop, Cover, Hold' is for an earthquake.
   c. 'If sea water recedes back, run to higher places' is for flood.
   d. 'If gunshots are heard, drop to the ground and cover the head with hand' is for riot.
5. Which of the following statements belongs to responding to earthquake?

a. Avoid, any place where police or security forces action is in progress.

b. Know the height of your street above sea level and the distance of your street from the coast.

c. Stay away from glass, windows, outside doors and walls and anything that could fall.

d. Before opening a door, feel it with the back of your hand.

II. Short answer

1. Who are the community's first responders to disaster?
2. What are the four phases of the Disaster Management Cycle?
3. Though Japan has the densest seismic network, Indonesia has the most number of earthquakes. Why?
4. How many males and females die per day due to fire in India?
5. What should you do after a Tsunami?

III. Short answer

1. Write a short note on Tsunami.
2. What do you do if you are indoors during an earthquake?
3. How do you respond to Tsunami?
4. What should you do if you are trapped in a car during a civil unrest?
5. Write three sentences about what to do during fire.

IV. Answer in detail

Look at the images given below and answer the following.

1. Why do you think you should cover your head with one hand and hold the table with the other during and earthquake?
2. During and earthquake, why should we exit through staircase and not use elevators?
3. Suppose you are in a room of a strong building without any furniture when and earthquake occurs. What would you do to protect yourself from the earthquake?
4. Reason out why should you stay away from buildings with glass panes during an earthquake.

PRACTICE

1. Mock drill for fire
2. Mock drill for earthquake

REFERENCE BOOKS

1. Disaster management Module, TNSCERT.
2. NDMA.
3. Wikipedia

INTERNET RESOURCES

http://www.ndmindia.nic.in/

Helpline Numbers

011-23438252

011-23438253

011-1070

STANDARD NINE

CIVICS

TERM III

UNIT 1

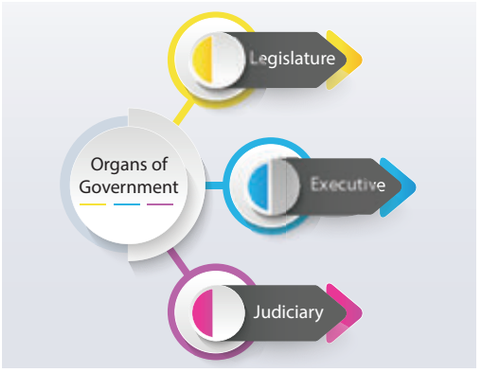
FORMS OF GOVERNMENT

Learning Objectives

- To know about the type of constitutions
- To understand the forms of government
- To learn the merits and demerits of the different forms of government
- To understand the differences between the Unitary and Federal, Presidential and Parliamentary forms of governments

GMTML7

Government is the main agency of the state. It comprises of several members belonging to political and administrative wings. It serves as the instrument for delegation and execution of the state policies for the welfare of the people. It formulates, expresses and realises the will of the state. It exercises certain legislative, executive and judicial powers based on the constitution and the laws. There are three organs in government, namely – Legislature, Executive and Judiciary. These organs carry out the activities of the state. Governments are classified into unitary, federal, parliamentary and presidential forms.



Meaning

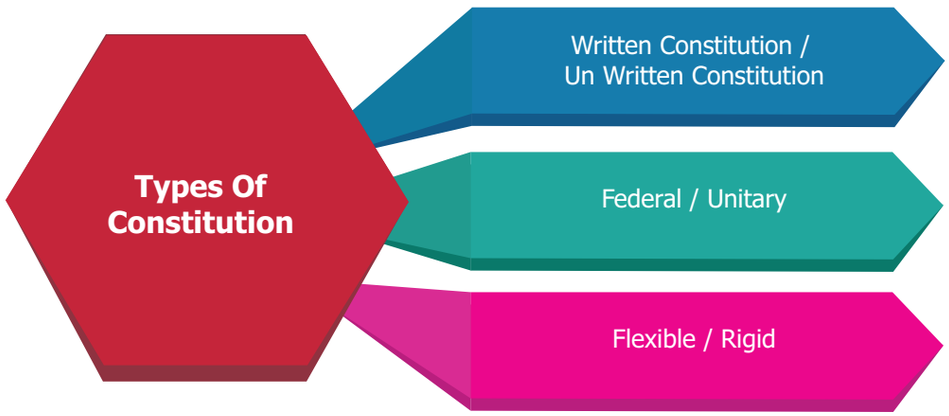
'Government' refers to the executive functions of the state. It denotes a body having authority to make and enforce laws applicable to the civil, corporate, religious, academic or other groups.

The term Government is derived from Old French 'governer', derived from Latin 'gubernare' to direct, rule, guide, govern".

Which is the oldest form of government?

Monarchy is the oldest form of government in the United Kingdom. In a monarchy, a king or queen is Head of State. The British monarchy is known as a constitutional monarchy. This means, while The Sovereign is Head of State, the ability to make and pass legislation resides with an elected Parliament.

TYPES OF CONSTITUTION



Unitary Form of Government

A unitary system of government or unitary state, is a sovereign state governed as a single entity. The central government is supreme and the administrative divisions exercise only powers that the central government has delegated to them.

England, France, Japan and SriLanka are examples of Unitary Form of governments.

In a Unitary form of government, all the authority and power is vested in a single centre, whereas in a federal form of government authority and power is distributed between centre and the constituent units. Even in a Unitary form of Government, there might be a lot of decentralisation of authority, but we cannot claim it as a federal system.

Merits of unitary form of government

- Suitable for small countries.
- There is no conflict of authority and responsibility.
- A unitary government will make prompt decisions and take speedy action.

- A unitary government is less expensive.
- Amendments to the constitution are easy.
- There is unity, uniformity of law, policy and administration.

De-merits of unitary form of government

- It is not suitable for big countries.
- The central government will have to tackle so many complex problems that lead to administrative delay
- The central government will not concentrate on local problems, local interest and initiative.
- The concentration of powers may pave way for the despotism of the central government.

Unitary features of the indian constitution

- Strong Centre
- Central Government's control over state territory
- Single Constitution
- Flexibility of the Constitution
- Unequal representation of states
- Emergency Provisions
- Single Citizenship
- Single Integrated Judiciary
- All India Services
- Appointment of Governor by the central government

Federal form of government

The classification of governments into unitary and federal is based on the nature of relations between the national and the regional governments.

A federal government is one in which powers are divided between the national government and the regional governments by the Constitution itself and both operate in their respective jurisdictions independently. U.S.A, Switzerland, Australia, Canada, Russia, Brazil, Argentina have federal form of governments. In a federal model, the national government is known as the Federal government or the Central government or the Union government and the regional government is known as the state government or the provincial government.

Merits of federal form of government

- Reconciliation of local autonomy with national unity
- Division of power between centre and states leads to administrative efficiency
- It gives rise to big states
- Distribution of powers check the despotism of central government
- More suitable for bigger countries
- It is good for economic and cultural progress

De-merits of federal form of government

- Federal government is weaker when compared to the unitary government.
- Federal government is more expensive
- Provincial tendencies are very common
- Lack of uniformity in Administration
- Threat to national unity
- Distribution of powers between centre and states lead to conflicts
- Double Citizenship
- Rigid constitution cannot be mended easily for changing needs
- The state governments sometimes place hindrances in the foreign policy

Country	Name of Parliament
Israel	Knesset
Germany	Bundestag
Denmark	Folketing
Norway	Storting
U.S.A	Congress

Federal features of the Indian constitution

- Dual Government
- Written Constitution
- Division of Powers
- Supremacy of the Constitution

The Constitution is the supreme law of the land. The laws enacted by the Centre and the states must confirm to its provisions.

- Rigid Constitution
- Independent Judiciary
- Bicameralism

Difference between Unitary form and Federal form of Government

Unitary Form of Government	Federal Form of Government
Only one Level of Government or Sub units	Two Levels of Government
Mostly Single Citizenship	Dual Citizenship
Sub Units cannot operate independently	Federal Units are answerable to Central Government
No Division of Power	Division of Power
Centralisation of Power	Decentralisation of Power

Parliamentary form of government

Modern democratic governments are classified into parliamentary and presidential on the basis of the nature of relations between the executive and the legislative organs of the government.

The parliamentary system of government is the one in which the executive is responsible to the legislature for its policies and acts.

The parliamentary government is also known as cabinet government or responsible government or Westminster model of government and is prevalent in Britain, Japan, Canada and India among others.

Features of parliamentary form of government

- Nominal and Real Executives
- Majority Party Rule
- Collective Responsibility
- Dual Membership
- Leadership of the Prime Minister

Merits of the parliamentary form of government

- Harmony between Legislature and Executive
- Responsible Government
- Prevents Dictatorship
- Wide Representation

Demerits of the parliamentary form of government

- Unstable Government
- No Continuity of Policies
- Dictatorship of the Cabinet
- Against Separation of Powers

The presidential form of government

The Presidential Form Of Government is also known as non-responsible or non-parliamentary or fixed executive system of government, basically built on the principle of separation of power and is prevalent in the USA, Brazil, Russia and Sri Lanka among others.

Features of presidential form of government

The American President is both the head of the State and the head of government. As the head of State, he occupies a ceremonial position. As the head of government, he leads the executive organ of the government.

The President is elected by an electoral college for a fixed tenure of four years. He cannot be removed by the Congress, except by impeachment for a grave unconstitutional act.

The President governs with the help of a cabinet or a smaller body called 'Kitchen Cabinet'. It is only an advisory body and consists of non-elected departmental secretaries. They are selected and appointed by him, are responsible only to him and can be removed by him any time.

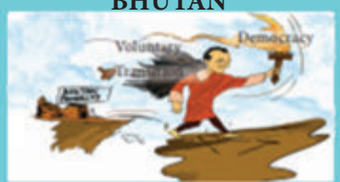
The President and his secretaries are not responsible to the Congress for their acts. They neither possess membership in the Congress, nor attend its sessions.

Historic Transition in Bhutan

Third King - Abolishment of slavery
Fourth King - Abdication of regal title
Fifth King - Democratic elections and establishment of local self-government

Transition from the hereditary monarchy to the Parliamentary Democracy. In 2006, the king abdicated the throne 34 years after ascending it. His son Crown Prince Jigme Khesar Namgyel Wangchuck became the fifth monarch and head of the state of the Himalayan kingdom. Now Bhutan is a Parliamentary Democracy and King Jigme a constitutional monarch.

HISTORIC TRANSITION IN BHUTAN



Courtesy: The Hindu - 3.11.2008
Cartoon by Keshav

The President cannot dissolve the House of Representatives—the lower house of the Congress.

The doctrine of separation of powers is the basis of the American presidential system. The legislative, executive and judicial powers of the government are separated and vested in three independent organs of the government.

Merits of the presidential system of government

- Democratic
- Effective Control by the President
- Facilitate decision-making
- State government

Demerits of the presidential system of government

- Can degenerate into Dictatorship
- Strain relationship between executive and legislature
- Lack of Harmony between the Legislature and Executive

April Revolution and democracy in Nepal

On April, 2006 the leaders of Nepal vibrant pro-democracy civil society movement "Seven Party Alliance" (SPA) called for a million strong demonstration to be staged at 7 different points along the Ring road encircling the capital Kathmandu. The millions of citizens who made up the people's movement demanded an end to autocratic rule of monarchy and Restoration of total democracy in the Himalayan kingdom. An unprecedented development forced King Gyanendra to step down and paved the way for democracy.

Difference between the Parliamentary Form of Government and Presidential Form of Government

Presidential Form of Government	Parliamentary Form of Government
President is directly elected by the People	Prime Minister is from the majority party
President is Supreme	Central Legislature is supreme
Separation of Powers	Absence of Separation Powers Centralisation
Independent branches	Independent branches with Overlapping functions
President - Head of the State	President - Head of the State
President - Head of the Government	Prime Minister - Head of the Government
Individual Leadership	Collective leadership
President is not accountable to Congress	Collective and Individual Responsibility

The relationship between the Centre and the State in India

India is a union of States where the power is shared between the centre and the states, as per the procedures mentioned in the Constitution of India. Though the powers are shared between the Central and State Governments, the final decision is by the Central government in all matters. The relationship between the centre and the states are

1. Legislative relations (Articles 245-255)
2. Administrative relations (Articles 256-263)
3. Financial relations(Articles 268-293)

Both the Central and State governments have the power to make laws, but the matters differ. The centre can make laws applicable to the whole nation on certain matters called as the union list. The States have the powers to make laws in some matters only, applicable to their own state, called as the State list. The concurrent list includes the subjects on which both Central and State government have the power to make laws.

Union List: Union list has 100 subjects. These include Foreign affairs, Defence, Armed forces, Posts and Telegraphs, inter-state trade and commerce and so on.

State List: The state list consists of 61 subjects, which include Public order in the state, police, prisons, Local Governments, agriculture and so on.

Concurrent List: The Concurrent list has 52 subjects which include Criminal and Civil procedures, marriage and divorce, economic and special planning, newspapers, books and printing presses, population control and so on.

THE CONCEPT OF GOVERNANCE

From Government to Governance

Good governance is an indeterminate term used in the international development literature to describe how public institutions conduct public affairs and manage public resources. Governance is 'the process of decision-making and the process by which decisions are implemented'.

'Government' and 'governance' are synonyms, both denoting the exercise of authority in an organization, institution or state.

Characteristics of good governance

- Participation
- Rule Of Law
- Transparency
- Responsiveness
- Consensus Orientation
- Equity
- Effectiveness And Efficiency
- Accountability

Gross National Happiness (GNH):

Gross National Happiness is a developing philosophy as well as an 'index' which is used to measure the collective happiness in any specific nation.The concept was first mentioned in the constitution of Bhutan, which was enacted on 18 July 2008.

The term 'Gross National Happiness' was coined by the fourth king of Bhutan, Jigme Singye Wangchuck, in the 1970s. The GNH's central tenets are: "Sustainable and equitable socio-economic development; environmental conservation; preservation and promotion of culture; and good governance".

GNH is distinguishable by valuing collective happiness as the goal of governance and by emphasising harmony with nature and traditional values.

GLOSSARY

A-Z

Consensus	General agreement on an isssue
Despotism	Ecercise of absolute power
Executive	Having to do with carrying out laws
Judiciary	The judges of a court considered as a group
Legislature	Law making body
Monarchy	A form of government in which a single person is the hereditary head of the state
Rigid	Hard to change

Recap

- Government refers to the executive function of the state.
- Legislature, Executive, Judiciary are the three organs of government.
- The four important forms of Governments are Unitary, Federal, Parliamentary and Presidential forms.
- India practises a Parliamentary form of Government.
- Governance is the process of decision making and the process by which they are implemented.

Exercise

I. Fill in the blanks

1. _____, _____ are a few examples for unitary form of government.
2. The Parliamentary government is also known as _____.
3. In the parliamentary form of government _____ is the leader of the majority party.

II. Fill in the blanks

Country	Name of the Parliament
1. USA	_____
2. Norway	_____
3. _____	Folketing

III. Distinguish Between

1. Unitary and federal forms of government.
2. Parliamentary and presidential forms of government.

IV. Give short note on

1. Democracy in Nepal
2. Unitary form of government

V. Answer the following

1. List out the types of constitution.
2. What are the merits of a federal government?
3. Write down the differences between unitary form of government and federal form of government.

VI. Answer in detail

1. Write about the merits of unitary form of government.
2. Write about the presidential form of government and what is the difference between presidential and parliamentary forms of government.

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2. D.D.Basu, Introduction to the Constitution of Indian, New Delhi, LEXISNEXIS
3. R.C.Agarwal, Political Theory, New Delhi, S.CHAND
4. The Oxford Hand Book of The Indian Constitution
5. Anup Chand Kapur, Principles of Political Science, New Delhi, S.CHAND

INTERNET RESOURCES

1. http://www.worldbank.org/
2. https://openknowledge.worldbank.org/handle/10986/5980
3. http://www.grossnationalhappiness.com/articles/

UNIT 2

LOCAL SELF GOVERNMENT

Learning Objectives

- To study and understand the development of local self government before and after Indian independence
- To learn about the rural and urban local governments
- To learn about the nature and working of Panchayat Raj system in India
- To understand the 73rd and 74th Constitutional Amendment Acts, 1992
- To know about the historical origin and development in local self governments in Tamil Nadu

GMAVHW

Meaning of Local Self Government

Local Self-Governments are institutions that look after the administration of an area or a small community such as a village, a town or a city. Local Self-Government operates at the lowest level of society. It works at the grassroot level, close to the people, touching their everyday life. Local Self-Government is the management of local affairs by such local bodies which have been elected by the local people. These local bodies provide services to the local community as well as act as an instrument of democratic self-government.

Historical Background

The idea of local self government is a very old concept in India. It was at its peak under the later Cholas or the Imperial Cholas of Tanjore. There are historical records of references to local self government under Mauryan administration. Local self government existed throughout the country with its own diverse characteristics of ancient India. During the medieval period, local self governments had somewhat declined due to the onslaught of feudalism. It was revived during the British period in the last quarter of the 19th century, with Western orientation of training in democracy with Lord Ripon's Resolution in 1882. Lord Ripon was known as the 'Father of Local Government for laying the foundations of local self governments in modern times.

Under the Government of India Act, 1935 provincial autonomy was introduced. This Act came into force in 1937. In the provinces where the Congress formed its Government, rural development received special attention. It was an essential part of Gandhi's programme that Panchayat Raj institutions would be built from villages to the highest level.

After Independence, the Gandhian ideal of Grama Swaraj (Village Republic) greatly influenced the constitution makers. India being the land of villages, the creation of village panchayats became a social movement. Restoration of panchayats has become an article of faith during our freedom struggle. Hence with the dawn of independence and framing of the constitution of India, Article 40 was incorporated in the constitution which reads as: "*the State should take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as the units of self Governments.*"

Lord Ripon

Lord Ripon was the one who gave Indians the first taste of freedom by introducing the Local Self Government in 1882.

Lord Ripon

Ripon took some steps towards liberalizing the administration in India. He formulated the local self government and made it clear that he was advocating for the decentralization of administration.

He tried to remove obstacles in the sphere of Local Self government by his resolution of 1882. He led a series of enactments in which larger powers of the local self-government were given to the rural and urban bodies and the elected people received wider rights.

Local Self Governments since Independence

The conceptualisation of the system of local self-government in India took place through the formation and effort of four important committees from the year 1957 to 1986. The Community Development Programme (1952) and National Extension Service (1953) became a basis for 'The Great Charter on Panchayat Raj' in 1957.

Salient Features of the 73rd and 74th Constitution Amendment Acts (1992)

- Panchayats and Minicipalities will be 'institutions of self-government'.

Committees and Recommendations

- Basic Units of Democratic System – Grama Sabhas (Villages) and Ward Committees (Municipalities) comprising all the adult members registered as voters.
- Three-tier system of panchayats at village, intermediate block/taluk/mandal and district levels. Two-tier for smaller states with population below 2 million.
- Seats at all levels filled by direct elections.
- Seats reserved for Scheduled Castes (SCs) and chairpersons of the Panchayats at all levels also shall be reserved for SCs and STs in proportion to their population.
- One-third of the total number of seats reserved for women. One-third of the seats reserved for SCs and STs also reserved for women. One-third offices of chairpersons at all levels reserved for women.
- Uniform five year term and elections to constitute new bodies to be completed before the expiry of the term. In the event of dissolution, elections must be held compulsorily within six months.

Salient Features of the Tamil Nadu Panchayati Raj Act, 1994

The New Panchayati Raj System came into being in Tamil Nadu after the enactment of a new law for local body institutions in the year 1994. The salient features of the new Act are as follows: (a) A three-tier system (b) Gram Sabha (c) Establishment of Election Commission (d) Constitution of Finance Commission (e) Reservation of seats for SC/ST's proportionate to their population One third reservation of seats for women and (g) Constitution of District Planning Committees.

Village Panchayat

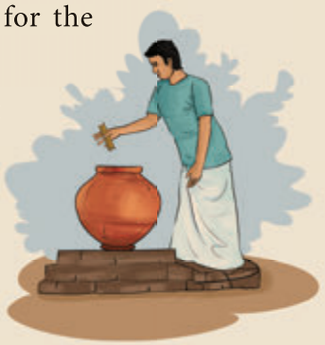
Local governments which are function in villages are called Village Panchayats. The President and ward members are directly elected by the people. (Those who have attained the age above 18) and their term of office is five years. District Collector act as the Inspector of Village Panchayat. Village Panchayats are constituted in each and every village wherever the population is above 500.

Functions of the Village Panchayat

- Supply of drinking water
- Maintenance of street lights
- Maintenance of roads
- Maintenance of village libraries
- Maintenance of small bridges
- Granting permission to the housing plots
- Maintenance of drainage
- Construction of group houses
- Cleaning of streets
- Maintenance of burial grounds
- Maintenance of common lavatory facilities

Historical Origin and Development of Local Self Government in Tamil Nadu

Tamil Nadu has a long history of local self-governance as is evident from the Uthiramerur stone inscriptions in Kanchipuram District. Tamil Nadu, in those days was a land of village republics, with community groups undertaking many activities for their area development. This tradition reached its peak during the 10th and 11th centuries under the reign of Cholas when Village Councils used to levy taxes, improve community life and administer justice in their limited area. These Village Councils had effective links with the Chola rulers. "Kuda Olai Murai" was the name of the secret ballot method exercised to elect members to the Village Councils. With the downfall of Cholas, the state experienced a decline of the village autonomy and rise of the centralized feudal administrative system. This continued till British rules introduced local self-governance primarily as an administrative convenience for the colonial British Government.



In the post independence era, the first enactment in democratic decentralization in the state was the Madras Village Panchayats Act, 1950. Pursuant to the White Paper on the 'Reform of Local Administration' in 1957, the Madras Panchayats Act, 1958 and Madras District Development Council Act were enacted with the following salient features.

Voluntary Functions.

According to the Tamil Nadu Local Government Act passed in 1994, the following functions to be performed as voluntary functions by the local governments.

- Maintenance of street lights in the villages
- Maintenance of markets and fairs
- Implantation of trees
- Maintenance of play grounds
- Maintenance of parking vehicles, slaughter houses and cattle sheds
- Control over places of exhibition

Revenue

Village Panchayat was the only local government which was empowered to levy taxes in the three-tier system of Village Panchayat.

Taxes

- Property Tax
- Professional Tax
- House Tax
- Taxes for connection of drinking water
- Land Tax
- Taxes levied on shops

Go to the local government office in your village and know about the levying of taxes.

Meeting of Gram Sabha

In each and every village, the people living within its jurisdiction will be the members of Panchayat. The President of the Panchayat will preside over its meetings. In the meeting of the Grama Sabha, the income and expenditure and the beneficiary of the schemes in the village are discussed.

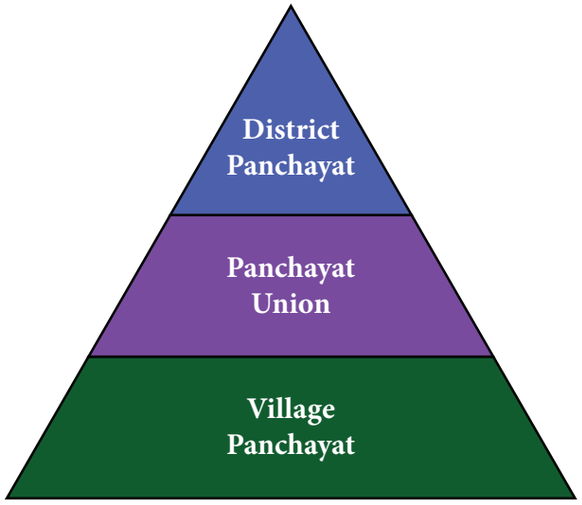
Grama Sabha

Meetings of the Grama Sabha are conducted four times a year

1. January 26 - Republic Day
2. May 1 - Labourer Day
3. August 15 - Independent Day
4. October 2 - Gandhi Jayanthi

Panchayat Union

Panchayat Union is formed by grouping of villages. Members of the Panchayat Union are directly elected by the people. The Chairman of the Panchayat Union is chosen from among the members.



Functions of the Panchayat Union

- Supply of drinking water
- Maintenance of Village Health Centres
- Maintenance of roads
- Establishment of Maternity Homes
- Establishment of Public fairs
- Establishment of Veterinary hospitals
- Maintenance of Social forests
- Repairing of Primary School buildings

Where will you report if street lights are not functioning and drinking water is not available in the tap in your village?

The district collector, Planning officer, concerned Block Development Officer are empowered to supervise the developmental functions of the Panchayat Union.

District Panchayat

A District Panchayat is constituted in each district. One district Panchayat is constituted for every 50,000 people and the ward members are directly elected by the people. The Chairman is elected from one among its members and their term is 5 years.

Functions of District Panchayat

- Advising the government about the developmental schemes of the Village Panchayat and Panchayat Union.
- Supervising the functions of District Planning Commission.

Urban Local Government

- Town Panchayat
- Municipality
- Corporation

Gandhi's Concept of Gram Swaraj

Gandhi really wanted 'Swaraj', the self rule by the people of India who represent the rural mass. He observed 'India's soul lives in the village'. He dreamt of village republics in terms of Panchayat in free India.

Mahatma Gandhi advocated Panchayat Raj, a decentralized form of government, where each village is responsible for its own affairs, as the foundation of India's political system.

In simpler words, Gandhi's ideal village should be basically self-reliant, making provision for all necessities of life-food clothing, clean water, sanitation, housing, education, and other requirements, including government and self-defense.

Town Panchayat

The area where more than 10,000 people live is called a Town Panchayat. Members and President of the town Panchayat are directly elected by the people. There is an Executive Officer to look after the administration of the Town Panchayat and their term of office is 5 years.

Municipality

The area where more than 1,00,000 people live is called a Municipality. The Members and the Chairman of the Municipalities are directly elected by the people and their term of office is five years. A Municipal Commissioner is appointed by the government to administer the Municipality.

Corporation

Municipal corporations are established in big cities where the city has many lakhs of population. The Municipal Commissioner is the Administrative Officer. The Mayor is the Chairman of the corporation. The term of office of the Mayor and other members is five years.

In Tamil Nadu, there are 12 Corporations. They are in Chennai, Kovai, Madurai, Trichy, Tirunelveli, Salem, Erode, Vellore, Tuticorin, Tirupur, Tanjore, Dindigul.

The Municipal Commissioner will be a person from the Indian Administrative Service (IAS). All the decisions of the Corporation Council will be implemented by him. He will be assisted by the office of the corporation.

Name the British Viceroy after whom the building of Chennai Corporation is name.

Corporation of Chennai

Important functions of the Mayor

- He acts as a bridge between the members of the corporation and the government
- He presides over the meetings of the Corporation Council
- He receives the dignitaries from foreign countries

Types of other Urban Panchayats

- Notified Area Committee
- Town Area Committee
- Cantonment Board
- Township
- Port Trust
- Special Purpose Agency

Elections to the local government in Tamil Nadu

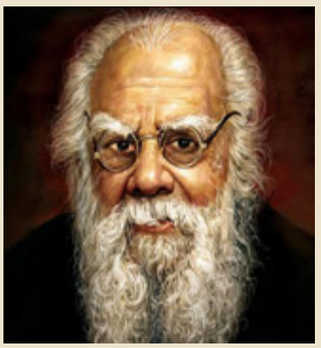
The State Election Commission conducts the elections to the local government like general elections. The electoral roll is prepared ward wise. Seats are reserved for the SC & ST and also for the women in proportion to the population by rotation basis.

Problems and Challenges facing the Local Self Governments

Local self governments are the crucial basis for our democracy. The Constitutional status of local self governments adds more significance to their functioning. There are, however, a few critical concerns in the working of local self governments in India. Major problems and challenges may be mentioned as below:

- Lack of clear demarcation of powers and functions of local bodies
- Allocation of funds and needs assessment are not matched
- Role of caste, class and religion in decision-making at the local self governments
- Poor accountability of elected members and officials at the grassroot levels of democracy

Piped water supply scheme in Erode Municipality:-



Periyar E.V.Ramasamy bacame the Chairman of Erode Municipality in 1917. During his tenure in Erode Municipality, Periyar worked effectively for Providing piped drinking water supply and health facilities to the people. Piped water supply scheme was implemented in 1919 by Periyar. This scheme was said to be first of kind in the history of Indian Municipal administration.

Odanthurai Panchayat

With permanent concrete houses built over a period, the village now has been declared as hut less village which provides continuous water supply, quality road networks to the residents.

The most notable among Odanthurai's Self-help ventures is its experiments with renewable energy sources. By awaiting loan from the banks and subsidy by The Government, the village panchayat had installed a small wind tarn at the cost of Rs.2.3 Cr which generates around 7.5 lakh units of electricity in a year. While the Panchayat's need is only 2.5 lakh units, the remaining power is sold to TANGEDCO, fetching an annual income of around R.s 20 lakh. Moreover the panchayat had installed a 9kw biomass gasifier Power generation system to substitute the grid electricity for pumping drinking water.

Solar based streetlight and biogas system connected to houses for cooking purpose are some of the highlights of the self-reliant in energy aspect by this model village panchayat, Odanthurai

GLOSSARY

Allocation - an amount of a resource assigned to a particular recipient

Amendment - changes made to an existing law

Autonomy - self government

Cantonment - a military garrison or camp

Clusters - a group of similar things or people

Conceptualisation - the action of forming a concept

Decentralisation - the transfer of authority from central to local government

Dignitaries - persons considered to be of high rank or office

Dissolution - formally ending or dismissing an assembly

Grass root level - the most basic level

Judicial - relating to the administration of justice

Onslaught - a fierce attack

Pursuant - following

Rejuvenated - restore

Revitalisation - to give new life

Revived - re-establish

Self Government - a system in which the citizens rule themselves

Slaughter - killing of animals for food

Tier - a series of levels of a structure placed one above the other

Voluntary - done of one's own free will

Recap

- Local Self Government operates at the lowest level of society.
- Lord Ripon is known as the 'Father of Local Self Government'.
- 'Kuda Olai Murai' during the Chola rule was a ballot method to elect members to the village councils.
- The New Panchayat Raj system came into being in Tamil Nadu in the year 1994.
- Village Panchayats are local governments of villages.
- Meetings of the Grama Sabha are conducted four times a year.
- Panchayat Union is formed by grouping of villages.
- District Panchayat is constituted in each district.
- Corporations, Municipalities and Town Panchayats are urban local bodies.
- Mayor is the Chairman of the corporation.
- The state Election Commission conducts the elections to the local government.

Exercise

I Choose the correct answer.

GMJRJJ

1. Which committee was appointed by the planning commission in 1985.

   a) Balwant Rai Mehta b) Ashok Mehta

   c) G V K Rao d) L M Singhvi

2. The Uthiramerur stone inscription show evidences of prevelant local self government during the _____ period in Tamil Nadu.
   a) Chola
   b) Chera
   c) Pandiya
   d) Pallava
3. The 73rd and 74th constitutional Amendment Acts, was enacted during the year in _____.
   a) 1992
   b) 1995
   c) 1997
   d) 1990
4. _____ act as the inspector of Village Panchayat.
   a) Commissioner
   b) District Collector
   c) Councillors
   d) Mayor

II Fill in the blanks.

1. _____ is known as the 'Father of Local Governments'.
2. Restoration of _____ has become an article of faith during our freedom struggle.
3. _____ was the name of the secret ballot method exercised to elect members to the village councils during the Chola period
4. Local Government which function in villages are called _____.
5. _____ will look after the administration of the Town Panchayat.

III. Match the following:

1. Zilla Parishad	-	Villages
2. Gram Sabhas	-	Mayor
3. Ward Committees	-	Chairman
4. Panchayat Union	-	District Collector
5. Corporation	-	Municipalities

IV. Find out the correct statement

i. Panchayat Union is formed by grouping of Districts.
ii. District Panchayat is constituted in each village.
iii. The Municipal Commissioner will be a person from the Indian Administration Service (IAS).
iv. In Village Panchayat, the President and ward members are elected by the people.

V. Answer in brief.

1. Name the taxes levied by the Village Panchayat.
2. List out the salient features of Tamil Nadu Panchayat Raj Act 1994.
3. Mention the important functions of the Village Panchayat.
4. Which are the voluntary functions of the local governments?
5. Who is the head of the District Panchayat?
6. Name the Urban local governments.

VI. Answer in paragraph.

1. Write in details about the salient features of the 73rd & 74th Constitutional Amendment Act (1992).
2. Describe the major problems & challenges faced by the local self governments.

VII. Activity

1. Meet your Panchayat President / Municipal Chairman and discuss with him how the local self goverment is being administered.

ICT CORNER

LOCAL SELF GOVERNMENT

Official Website of the Rural Development and Panchayat Raj Department of Tamil Nadu help to learn about Government Act, Schemes, Database Map and Administration.

Procedure

Step – 1 Open the Browser and type the URL given below (or) Scan the QR Code.

Step – 2 Click on Map and Select "Blocks" in Dropdown menu

Step – 3 Click your district name to know about the number of blocks in the database map
(ex. Tiruchirappalli)

Step1

Step3

Step2

B568_9_SS_EM_T3

URL:

https://www.tnrd.gov.in/ index.html (or) scan the QR Code

*Pictures are indicatives only.

UNIT 3

ROAD SAFETY

Learning Objectives

- To understand the increase of road accidents in our country
- To know the causes of road accidents
- To follow the road safety rules

GNCEPH

Case Study: 'Driving faster can cause disasters'.

By Express News Service, 06th April 2018

CHENNAI: The Chennai city traffic police have registered a case against a woman after her son, a Class XI student, died in an accident in Thirumangalam here on Wednesday. Meera Venkatesh who lent her bike to her son for riding without driving licence, was booked. The boy Kannan (name changed) was riding a Bajaj Pulsar 200-CC bike with his classmate riding to a tuition centre, when he banged on a pedestrian on Park Road in Mogappair. In this impact, the pedestrian was injured and the boy smashed against the platform as he had applied brakes to save the pedestrian.

As he was not wearing a helmet, he suffered severe head injuries. The boy was rushed to the hospital where he was declared dead succumbing to injuries.

In this lesson, We will learn about a road accident refers to any accident involving at least a vehicle, occurring on a road open to public transport, and in which at least one person is injured or killed. Intentional acts (murder, suicide) and natural disasters are excluded from road accidents.

Road accidents are the leading cause of death by injury and the tenth-leading cause of all deaths globally. An estimated 1.2 million people are killed in road crashes each year, and as many as 50 million people are injured.

DO YOU KNOW?

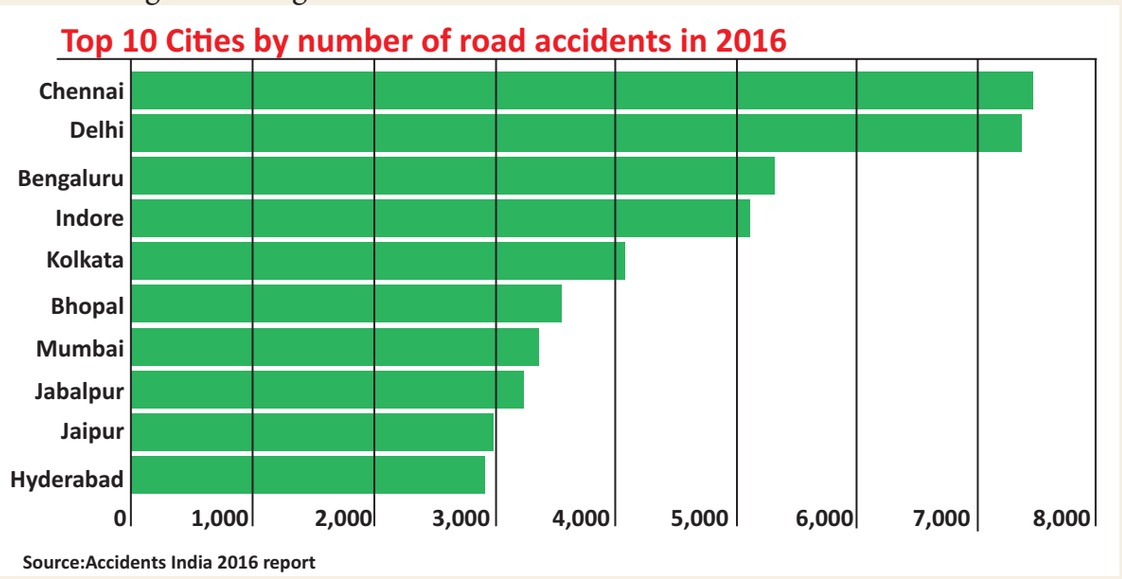
With over 1,30,000 deaths annually India has the worst road accident rate worldwide.

DO YOU KNOW?

Every three minutes a child is killed in an accident in the world.

The main causes of death by road accidents include

1. Drunk and drive (40%), speeding (24%), car boom in India (16%), inefficient law enforcement (15%) and less use of helmets and seat belts (5%)
2. Distractions to Driver
3. Red Light Jumping
4. Overtaking in a wrong manner



How different factors contribute to road accidents:

Drivers: Over-speeding, rash driving, violation of rules, failure to understand signs, fatigue, alcohol

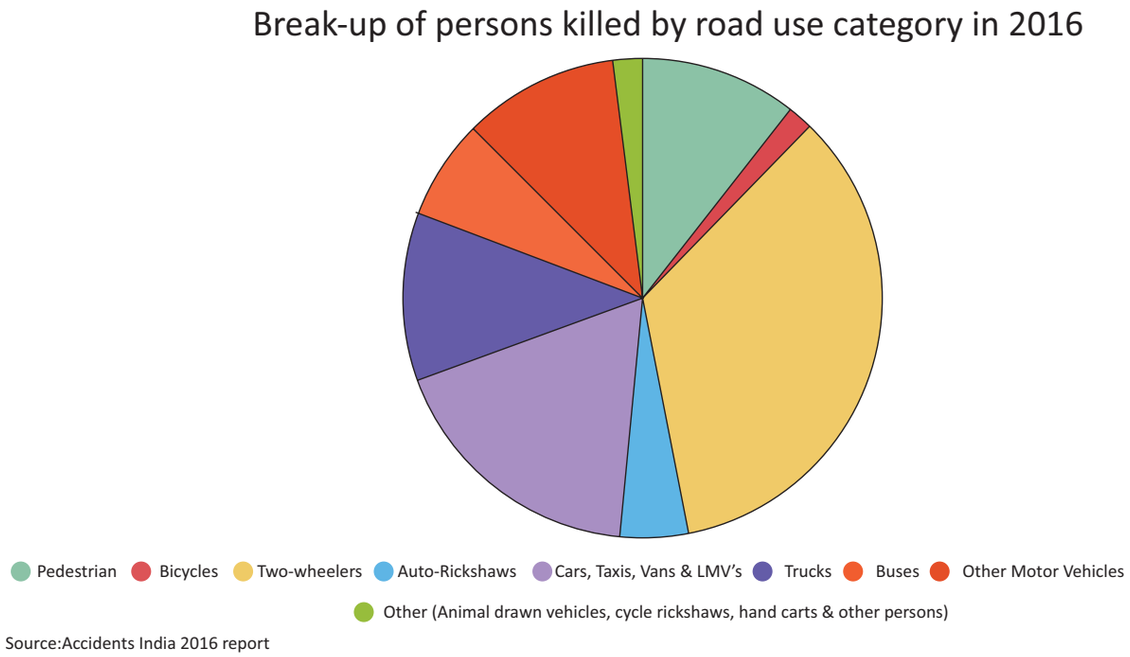
Pedestrians: Carelessness, illiteracy, crossing at wrong places, jaywalkers

Passengers: Projecting their body parts outside vehicles, talking to drivers, alighting and boarding vehicles from the wrong side, travelling on footboards, catching a running bus etc.

Vehicles: Failure of brakes or steering, tyre burst, insufficient headlights, overloading

Road Conditions: Potholes, damaged roads, eroded roads merging of rural roads with highways and illegal speed breakers

Weather conditions: Fog, snow, heavy rainfall, wind storms, hail storms.



Source:Accidents India 2016 report

Look at the diagram given above and answer the following.

1. Which road use category causes the highest number of deaths? Could you give any three possible reasons? What would you suggest as the related safety rules?
2. How could pedestrians save themselves from road accidents?

Direct Consequences of Accidents:

1 Fatality (Death)

2. Injury

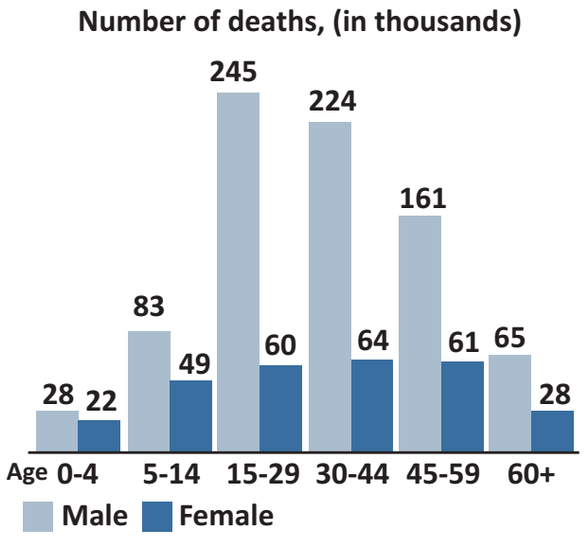
3. Damage to Property

Preventive measures for accidents:

1. Education and awareness about road safety
2. Strict enforcement of law
3. Engineering:
   (a) Vehicle design
   (b) Road infrastructure

The chances of death by accident can be decreased by 51% with the proper use of seat belt.

Road Traffic Deaths Worldwide by Sex and Age Group, 2002



Source: WHO Global Burden of Disease Project, Version 1 (2002).

Look at the above diagram carefully and answer the following.

1. Which age group tops the number of road traffic deaths worldwide? Why?
2. Give some inference on the striking difference between the number of road accident deaths of males and females.

Rules to Ensure Road Safety for children

It is important for children to know about road safety rules and regulations. Here are a few basic road safety rules for children:

1. Know Your Signals
2. Stop, Look and Cross
3. Pay Attention – Listen
4. Don't Run On Roads
5. Always Use Sidewalks
6. Never Stick Hands outside the Vehicle
7. Never Cross Road at Bends
8. Don't Rush

Activities

Road Safety Games & Activities

Play is one of the best ways to make children learn important things. A few road safety tips will help the children learn about road safety.

1. Crosswords are excellent learning tools for older students. You can find road safety education crosswords for online.

2. Play guessing games play noises or sounds that they are likely to hear on the street and ask them what it is.

3. Red Light, Green Light Have the children run around and someone yells out, 'red light' and the children have to stop what they are doing until they hear 'green light'.

References

1. Dinesh Mohan, 'Road Safety in Less-Motorized Environments: Future Concerns', *International Journal of Epidemiology* 31, No. 3 (2002)
2. Christopher J.L. Murray and Alan D. Lopez, eds., T*he Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries and Risk Factors in 1990 and Projected in 2020* (Boston: Harvard School of Public Health, 1996).
3. Courtesy:- Ministry of Road Transport & Highways, Government of India

STANDARD NINE

ECONOMICS

TERM III

UNIT 1

Tamil Nadu Agriculture

Learning Objectives

- To know about the agricultural activity in Tamilnadu
- To know the extent of land under cultivation in Tamilnadu
- To understand the importance of water and irrigation in agriculture
- To know about various crops grown in Tamilnadu
- To analyse the crop productivity in Tamilnadu

GNLAR5

Most of the people of Tamil Nadu depended on agriculture at the time of independence and even after 40 years of independence. That situation is being changed in the recent years. It has been noticed that the number of farmers in Tamilnadu has got reduced during the last 10 years according to the 2011 census data. Similarly the number of agricultural workers also reduced during the same period. According to the 2001 census, 49.3% out of the total population of workers were involved in agriculture. The percentage has reduced to 42.1 in the next 10 years. In 2011 there were three crore 29 lakh workers in Tamilnadu of which 96 lakh were agricultural workers.

In 2011, nearly 55% of the women were involved in agriculture whereas nearly one third (35.3%) of the male population was involved in agriculture during the same year.

Sectors of people involved in agricultural activities

A major portion of the workers involved in agricultural activities are landless labourers. All the land holders do not have the same amount of land. Many have very little land and very few people hold large areas of land.

During 2015-16 , there were 79,38,000 cultivators in Tamil Nadu. But five years earliers there were 81,18,000 cultivators. There was a reduction of 1,80,000 cultivators in these five years. Similarly, the area under cultivation also reduced from 64.88 lakh hectares to 59.71 lakh hectares during the same period. That is, the state of Tamil Nadu had lost nearly 1,03,400 hectares on an average during these five years.

Most of the cultivators in Tamilnadu are micro farmers who cultivate in an area less than 1 hectare. Micro farmers account to around 78% of the total cultivators, while the area cultivated by these micro farmers is just 36%. Small farmers cultivating 1-2 hectares of land cover 14%, while the land cultivated by them is 26%.

Cultivators of shedule caste farmers are only one percent in Tamilnadu. 96% of this one percent are small, micro farmers.

The total land area under agriculture is shrinking fast not only in Tamilnadu, but also throughout India. The number of marginal farmers has increased in India. In contrast, the number of marginal farmers is decreasing in Tamil Nadu. This shows that the farmers are doing other occupations.

Types of land usage

The total geographical area of Tamil Nadu is one crore 30 lakhs and 33 thousand hectares. Out of this only one third of land is used for agriculture (45,44,000 hectare). 17% of the land is used for non agricultural use. Nearly the same size (2125 thousand hectares) of land are forests. About 4% of the total land is unusable. One tenth of the land is barren. Other fallow lands are 13 percent. So nearly one-fourth of the land is barren and we have to be concerned of the increasing size of the barren land. Grazing land and cash crops occupy slightly more than 5% of the total land area.

The size of the total cropping land in Tamil Nadu is 4,544 thousand hectare and this keeps on changing every year. Sufficient rains at the proper period will increase this extent of land. Failure or shortage in rainfall leads to the reduction of land usage for cultivation. A small part of this area gives a chance to crop more than once in a year. The extent of this area also changes every year. This land extent was 9 lakh hectare in next year but was reduced to 6 lakh hectare, due to lack of rainfall. This area will be more or less stable only when there is a stable and reliable water source.

If there is good water for a land, more than one crop can be cultivated in a year. In some land, two or even three crops can be cultivated. If one hectare land is cultivated once in a year, then the net land and the cultivated land is also one hectare only. If the land is cultivated twice, then the net land area is only one hectare, but the cultivated land area accounts to two hectare. If calculated in the same way for Tamil Nadu for the year 2012 -13, it is 45 lakh 44 thousand hectare net

land area whereas the cultivated land comes to around 51 lakh 40 thousand hectare. So, it is clear that 5,96,000 hectares is cultivated more than once. While reliable water supply increases, the possibility of cultivating the land more than once increases. Thus when the total area of cultivable land area increases, it results in the increase of agricultural production.

In 2012-13, out of the total cultivated land, nearly 72 percent is used for food crops and the remaining for non-food crops.

Water resources for agriculture

There are no perennial rivers in Tamil Nadu. Tamil Nadu receives the required water from the Northeast and Southwest monsoons. When the South West monsoon rains are high in the catchment areas of the Cauvery River in Karnataka dams get filled and in turn the Cauvery river in Tamil Nadu gets water.

The area under irrigation is about 57 percent of the total area under cultivation.

Northeast monsoon (Oct-Dec) is a major source of water for Tamil Nadu. The Northeast monsoon rains are stored in reservoirs, lakes, pond and wells for cultivation. Conventional water bodies like lakes, ponds and canals provide water for agriculture in Tamil Nadu. 2,239 canals run through Tamil Nadu covering a length of 9,750 km. There are 7,985 small lakes, 33,142 large lakes, 15 lakh open wells and there are 3,54,000 borewells in the state where agriculture is carried out with the help of these water resources.

The area of land that is irrigated using water from lakes is very low. Nearly 3.68 lakh hectares of land obtain water from lakes. The canals provide water to 6.68 lakh hectares. Borewells irrigate 4.93 lakh hectares and open wells provide water to 11.91 lakh hectares of land.

Agriculture in Tamil Nadu is dependent mostly on groundwater. Use of ground water for agriculture creates many hardships too. There would be no sufferings if the amount of water taken from the underground and the amount of water that goes into the underground during the rainy season are equal. On the contrary, as the amount of water taken increases, the ground water goes down resulting in complete dryness or change into unusable water.

The Union Ground Water Board is constantly monitoring the level and nature of ground water. This continuous monitoring has categorized the Panchayat Union (blocks) in terms of the amount of groundwater used. 139 blocks in Tamilnadu are identified as excessive users of groundwater and 100 blocks as nearing the stage of excessive usage of groundwater. 11 blocks have been identified with reduced water quality. Only 136 blocks have enough quantity and quality water for usage.

From this, we come to know that:

1. Tamil Nadu agriculture is dependent on groundwater.
2. It is very urgent and necessary to regulate the usage of underground water.
3. This is very important for sustainable farming.

Irrigation and crop types

Crops in Tamilnadu

All cultivated crops can be classified as food crops and non-food crops. 57 percentage of the total land under food grain cultivation is irrigated. In 2014-15, 59 percentage of food crops and 50 percentage of non food crops were irrigated in Tamilnadu.

- River Cauvery is the 3rd largest river in South India. Its length is 765 km.
- The dams constructed across Cauvery in Tamil Nadu are Mettur Dam, Kallanai

The total area of land cultivated in Tamil Nadu was 59 lakh and 94 thousand hectares in 2014-2015. Out of this non-food crops were 76%.

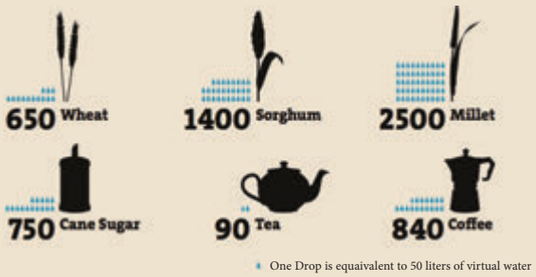
Virtual water

The term 'virtual water' was introduced by Tony Allen in 1990.

The water consumed in the production process of an agricultural or industrial product is called 'virtual water'.

It is the hidden flow of water when food or other commodities are traded from one place to another. For instance, it takes 1340 cubic metres of water (based on the world average) to produce one metric ton of wheat. That is, if one metric ton of wheat is exported to another country, it means that 1340 cubic metres of water used to cultivate this amount of wheat is also being exported.

India is the largest global freshwater user. India has been the fifth largest exporter of virtual water in the world



Paddy cultivation is carried out at a large scale of 30 percent cultivated land area and other food crops in 12 percent area. Millets are cultivated in a very low percentage of area. Sorghum(Cholam) cultivation in 7 per cent land area, cumbu in one percent and ragi in 1.7 per cent. Other millets occupy 6 per cent in the year 2014 - 2015.

The area cultivatable land changes every year as a result of many factors such as rainfall, availability of water, weather and market prices

Decadal growth in agricultural production

The total quantity of foodgrains produced in Tamil Nadu in the year 2014 - 2015 was one crore 27 lakh 35 thousand tonnes. Paddy alone accounted to 80 lakhs tonnes. The contribution of paddy to the total amount of food production is 62%. Maize production was 20%, corn 7%, ragi 3% and another 3% occupied by black gram, while other food crops contributed a very meager amount to the total food production in Tamil Nadu.

The amount of production varies depending on the amount of land being cultivated.

Different water sources for irrigation

Irrigated area

Wells -62%

Canals - 24%

Lakes - 14%

Micro irrigation

Micro irrigation technology is a very good remedial measure to tackle shortage in irrigational water. This irrigation technology helps to have a higher yield when compared to the traditional irrigation methods. As only required amount of water is supplied at regular intervals, it increases the ability of water usage and productivity of the crop resulting in reduction of labour expenses and weed growth in the field. As the fertilizer is distributed through water, it increases the usage of fertilizer and the yield. As Tamil Nadu gets insufficient rainfall, the government has taken many measures to implement micro irrigation for proper distribution of water to crops that require more water.

The yield of productive crops

The amount of production depends not only on the area but also on the productivity of crops.

Production capacity of paddy in Tamil Nadu was 4,429 kg per hectare in 2014-2015. This capacity was 3,039 kilograms in 2010-2011 revealing the increase in productivity.

Next to paddy, maize stands second in the production (8,824 kg/hectare).

2,093 kg/hectare corn, 3,077 kgs of rye (cumbu) and 3348 kgs of ragi were produced during the same period.

Black gram, one of the largest cultivated pulses, produced 645 kg per hectare. Production of sugarcane and ground nut (Manila) were 107 tons and 2,753 kg per hectare respectively.

The productivity of crops continues to increase. For example the productivity of paddy in 1965 - 66 was 1,409 kg. It increased to 2,029 kg in 1975-76 and 2,372 kg in 1985-86. It increased to 2,712 kg after a decade. The production was 4,429 kg in the year 2014-15. In the past fifty years, the productivity of paddy has increased more than three times.

The food grain production capacity, has increased about 3.5 times between 1965-66 and 2014-15. Similarly, the total foodgrain production has risen by 2.5 times during this period. In 1965-66, the total food grain production was slightly more than 50 lakh tonnes and in 2014-15, the production increased and was slightly below one crore 28 lakh tonnes.

We find that both the productivity and food production in Tamil Nadu continue to increase. However, the area under food grain cultivation has reduced in the same period. Though there was a reduction in the area of production, the total amount of production has been maintained and there is an increase of productivity.

Glossary

Fallow	-	Uncultivated
Perennial	-	Flowing throughout the year
Catchment areas	-	The area from which rainfall flows into a river, lake or reservoir.
Yield	-	Produce or product
Productivity	-	Ability to produce

Recap

- The number of people involved in agriculture and the land under cultivation is declining in Tamil Nadu.
- While the number of marginal farmers is increasing in India, it is decreasing steadily in Tamil Nadu.
- Out of the total geographical land area, only one percent is under cultivation and one fourth is left fallow.
- Areas with good water facilities can be cultivated upto three times a year.
- South West and North East monsoons are the main sources of water for agriculture in Tamil Nadu. So Tamil Nadu's agriculture is dependent on ground water.
- Crops are divided into food and non-food crops.
- Major food crops of Tamil Nadu are paddy, maize and ragi. Coconut stands first in non-food crops.
- Recent researches show that the productivity of crops is steadily increasing.

EXERCISE

I. CHOOSE THE CORRECT ANSWER

1. Irrigated land surface out of cultivable land is.

   a) 27% b) 57% c) 28% d) 49%

2. Out of the following, which is not a food crop

   a) Bajra b) Ragi

   c) Maize d) Coconut

3. The productivity of paddy during the year 2014-2015

   a) 3,039 kg b) 4,429 kg

   c) 2,775 kg d) 3,519 kg

4. Both agricultural productivity and food productivity has

   a) decreased b) not stable

   c) remained stable d) increased

5. The North-East monsoon period in Tamilnadu

   a) August – October

   b) September – November

   c) October – December

   d) November – January

II. Fill in the blanks

1. The major occupation of people in Tamilnadu is ----------

2. Tamilnadu receives rainfall all from the ---------- monsoon.

3. The total geographical area of Tamil Nadu is ---------- hectares.

III. Match the following

1.	Non-food crops	–	79,38,000
2.	Dhal	–	less than 1 hectare of cultivable land
3.	North east monsoon	–	October – December
4.	Small farmers	–	Urad Dal, Toor Dal, Green grams
5.	No. of farmers in 2015	–	2016 – Coconut, Channa

IV. Give short Answers

1. Give two examples for each food crop and non-food crops
2. What are the factors responsible for the changes in cropping area?
3. Who monitors the quantity and quality of ground water?
4. Tabulate the productivity of paddy from 1965 to 2015.
5. On what factors does crop cultivation depend? List out the factors on which crop cultivation depend.
6. Differentiate between small and marginal farmers.

V. Answer in Detail

1. Give a note on the water resources of Tamil Nadu
2. What are the problems faced by using ground water for agriculture?
3. Discuss about the source of irrigation for agriculture.
4. Tabulate the crops grown in Tamil Nadu.

VI. Activity

1. Analyse the cultivation of food crops and non-food crops of your village / area.
2. Thanjavur is famous for which crop? Why is it so? Research.
3. Collect statistical data, where paddy is being cultivated at Thanjavur District, which is called the Nerkalanjium of Tamil Nadu.

ICT CORNER

AGRICULTURE OF TAMILNADU PEOPLE

Through this activity you will know about agriculture process of Tamilnadu people

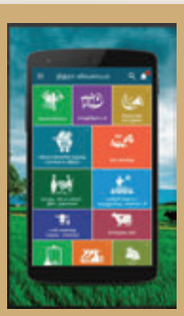
Procedure

Step – 1 Open the Browser and type the given URL (or) Scan the QR Code.

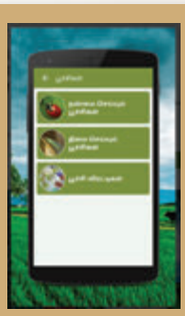
Step – 2 "Vivasayam" page will appear on the screen.

Step – 3 Click Search Options to know any information agriculture news, Government Loan etc.,

Step – 4 Click "Velanmai" to know about history of Tamilnadu agriculture.


Step1


Step2


Step3


Step4

URL:

https://play.google.com/store/apps/details?id=nithra.tamil.vivasayam.agriculture.market&hl=en (or) scan the QR Code

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*Pictures are indicatives only.

UNIT 2

MIGRATION

Learning Objectives

- To understand the concept of migration
- To learn about the extent of migration in India and Tamil Nadu
- To analyse the factors underlying migration

GP52UF

Concept of Migration

In any settlement-village or town-change in population occurs due to birth, death and migration. Of these three components of population change, birth and death is clearly identifiable events while migration poses the maximum amount of problem with regards to its definition and measurement. As almost everyone keeps moving most of the time, it is not easy to define which of these moves have to be classified as migratory moves.

In the Census of India, migration is enumerated on two bases

(i) **Place of birth:** If the place of birth is different from the place of enumeration (known as life-time migrant).

(ii) **Place of residence:** If the place of last residence is different from the place of enumeration (known as migrant, by place of last residence).

Case Study

"Dad, I have to write an essay about my native place. Will you please help me? Please also tell me why you moved away from our beautiful village?"

"Sure. I will tell you".

"We hail from a small village called Sattapathu near Ambasamudram town in Tirunelveli district. The village is on the banks of Thamirabarani river and as you pointed out, our native place is exceptionally serene and beautiful with paddy fields, banana groves and temples. When I was a child I used to walk 7 kms everyday to the nearest school at Ambasamudram. My friends and I used to have so much of fun on the way to school. However, after I completed my schooling, I had to earn money to educate my younger brothers. So, I moved to Bombay (Mumbai) and stayed with a distant relative and searched for a job. In a month's time, my relative could place me as a stenographer in a private company. Later on, that company gave me a transfer to Madras city (Chennai)."

"You had to move for the safe of employment and earn money? Is it so?"

"Yes, you are quite right. People also move for different reasons. Your elder brother has now moved to England for higher studies. Your sister has moved to Delhi to be with her husband who is employed there. Your aunt, who lived in the neighbouring village has moved to our native village to look after my aunt. So you have to understand that people move for different reasons- for education, employment, marriage, etc..."

"Thank you dad, I understand why people move. I also understand that movement can be either within the country-from village to town or village to village or from town to town- or international. Now, please help me with the essay on our native place.

Extent of migration in India and Tamil Nadu

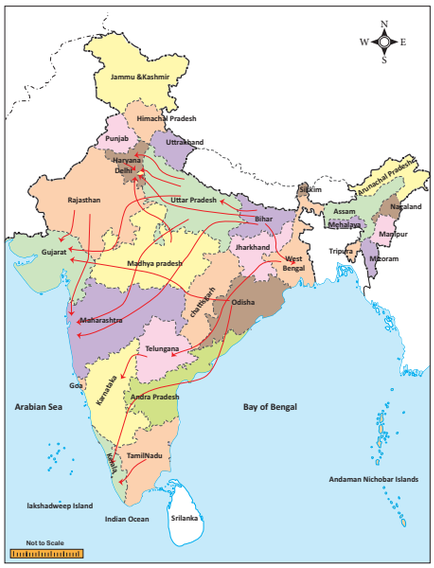
In India, the Census of 2011 enumerated a total population of 121 crores, of which 45 crore people were reported as migrants, according to the definition of the place of last residence. Similarly, in Tamil Nadu out of 7.2 crore people, 3.13 crore people were counted as migrants, in 2011. That is, the percentage of migrants was 37 percent in the country, while it was at a much higher rate in Tamil Nadu at 43 percent.

Generally, one tends to associate migration with urban areas. However, we find that in India as well as Tamil Nadu, the extent of migration is much higher in rural areas compared to urban areas. In 2011, 37 percent of the population are counted as migrants in rural areas while the corresponding percentage in urban India is 27 percent. In Tamil Nadu, migrants account for 41 percent in rural areas and 35 percent in urban areas, in 2011. That is, the mobility of population in rural areas is greater than that in urban areas.

Further, one usually associates mobility with males rather than females. However, an examination of data clearly indicates that a larger proportion of females are reported to be migrants compared to males. In the country as a whole, 53 percent are female migrants while 23 percent are male migrants, in 2011. In Tamil Nadu, the picture is very similar, with more than half the females (52%) reporting their status as migrants, by place of last residence, and 35 percent are male migrants.

Now, why is there such a large percentage of migration among women? 70 percent in India and 51 percent in Tamil Nadu report marriage as the reason for migration of females in 2011. That is, marriage and the movement associated with marriage appear to be a major factor responsible for women's mobility in India and Tamil Nadu. Movement related to work and employment appears to be the driving force for migration, among men. Of all the male migrants in India, 28 percent

report 'work' as the major reason for their migration, in 2011. The corresponding percentage in Tamil Nadu is 26 percent.



India - Extent of migration

To sum up, in Tamil Nadu, two out of every five persons is reported to be a migrant in the year 2011. Incidence of migrants is higher in rural areas and larger among women. Tamil Nadu has a history of migration and people have moved for various reasons such as trade, business, employment etc, to various countries. During the colonial period, labourers had moved to other colonies seeking work and wages. In the more recent period workers from Tamil Nadu have been moving to countries in the Gulf, United States of America and Australia. In 2015, an independent research study was conducted to understand the level, nature and pattern of migration in Tamil Nadu . This study has made some interesting findings, as discussed below:

- Of the total migrants in Tamil Nadu, 65 percent have migrated or moved abroad while 35 percent have moved within the country.
- Chennai district has recorded the maximum number of emigrants followed by Coimbatore, Ramanathapuram and Tiruchirapalli districts.
- Cuddalore, Karur, Thiruvannamalai, Vellore, Namakkal, Salem, Dindigul, Krishnagiri, Nilgiris and Dharmapuri districts record low number of emigrants.

This study also provides information about the sex and destination of migrants Tamil Nadu.

- Of the total migrants who go to foreign countries, nearly 20% have chosen to go to Singapore, while 18% to the United Arab Emirates, 16% to Saudi Arabia, 13 % to the United States of America; and Malaysia, Kuwait, Oman, Qatar, Australia and England are also refered as important destinations for migrants from Tamil Nadu in the year 2015.
- Of the international migrants, 15 percent are women, while 85 percent are men.

On the question of educational qualifications of migrants from Tamil Nadu, the study reveals that in 2015 about 7 % were illiterates; 30 % have completed. Class X; 10 % have completed Class XII; 15 % had undergone vocational training; 11 % were graduates; 12% were professionally qualified and 11 % had Post Graduate degrees.

The study clearly reveals various occupations undertaken by the migrants: highly skilled proffessions on one hand and low skilled occupations on the other, along with a large number of semi-skilled occupations.

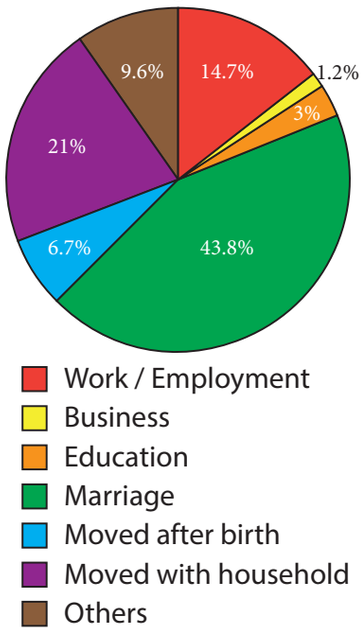
Factors underlying migration

The extent and nature of migration in any society is basically determined by the nature of the development process experienced by that society. That is, the type and scale of development achieved by the agricultural and industrial sectors in an economy would determine the migratory patterns.

GPDXW3

In India and Tamil Nadu, though the agricultural and industrial sectors have grown over the years, inequalities still exist in asset and income distribution. Endemic poverty continues to be a major problem.

Reasons for Migration in India



The growth processes have also created spatial inequalities, by leading to enclaves of growth. The migration patterns observed in a developing society such as ours correspond to these inequalities (economic, social, spatial etc) created by the development processes.

Therefore, any migrant stream would consist of heterogeneous sub-streams. For example, if we consider the rural-urban migrant stream, it would comprise of rural rich and the rural poor, each with its own reasons and motivation for migration, the mode of migration, the outcome or consequence of migration etc. Poorer sections of the population migrate as a survival strategy, in response to distressing conditions in rural areas. Migrants from better-off sections migrate to improve their living standards.

Further, spatially, there would be a tendency for migrants to converge on enclaves of growth-either in urban areas or in rural areas.

The pattern of migration is very complex, comprising of a number of streams:

- rural to rural; rural to urban; urban to rural; urban to urban
- short, medium and long distance migration streams
- long-term stable migration and short-term circulatory type of movements

Each of these streams would consist of different types of migrants, (from different social classes) each with its own reason for migration. The extent and nature of these migrant streams would essentially depend on.

- pressures and aspirations experienced by people at the origin of migration
- constraints imposed on mobility at the origin of migration
- opportunities at the destination and availability of information regarding these opportunities and
- the cost of migration

DO YOU KNOW?

- The largest migration corridor in the world in 2010 was Mexico – U.S.A.
- The Arctic tern has the longest migration distance of any bird in the world.

Migration for survival

Migration Policies

Policies to address the problem of migration in developing countries like India essentially aim at the following:

- To reduce the volume of migration: As a large part of migration is a reflection of poverty and insecurity faced by large sections of the rural people, the focus of intervention has to be in rural areas. Rural development policies to reduce poverty and insecurity would be essential to reduce the rate of migration.
- To redirect the migrant streams: Redirection of migrant streams, away from big metropolitan cities is a desirable policy option. This policy can help in reducing spatial inequalities by suitable strategies, such as developing a more dispersed pattern of urbanisation.

Recap

- Change in population occurs due to births, deaths and migration.
- The mobility of population in rural areas is greater than that of the urban areas.
- Marriage is the major factor responsible for women's mobility in India and in Tamil Nadu.
- Occupation is the major factor responsible for male migrants in India.
- The extent and nature of migration in any society is basically determined by the nature of the development process experienced by that society.
- The poorer sections of the people migrate for survival, but migrants from better-off sections migrate to improve their living standards.

GLOSSARY

Census - To count the number of people living in a country
Migration - Process of moving from one place to another
Population - The total number of persons inhabiting a country, city, district (or) area.
Migrants - A person who moves from one place to another in order to find work or better living conditions
Urban - Relating to city or town
Rural - Area located outside a city or town
Colonial Period - A period in a country's history when it was administered by a colonial power
Skilled - Having the ability needed to do a job well
Semi-Skilled - Having only a small amount of training
Inequality - It is the difference in social status, wealth or opportunity between people or groups
Heterogeneous - Consisting of things that are very different from each other

EXERCISE

I. Choose the correct answer.

1. According to the 2011 census, the total population of India was _____.

   a) 120 crore b) 221 crore
   c) 102 crore d) 100 crore

2. _____ has recorded the maximum number of emigrants.

   a) Ramanathapuram b) Coimbatore
   c) Chennai d) Vellore

3. During 2015, _____ of illiterates were migrants from Tamil Nadu.

   a) 7% b) 175% c) 23% d) 9%

4. The poorer sections of the population migrate _____.

a) as a survival strategy
b) to improve their living standards
c) as a service
d) to get experience

II. Fill in the blanks.

1. Migration is enumerated on _____ and _____ bases.
2. The mobility of population in rural areas is _____ than urban areas.
3. In rural India, as per census 2011, _____ percent of the population are counted as migrants.
4. _____ is the major reason for female migration.
5. Any migrant stream would consist of _____ sub streams.

III. Match the following.

1. Migration policy	-	Work
2. Female migrants	-	low incidence of imigration
3. Chennai	-	maximum number of emigration
4. Better off migrants	-	marriage
5. Salem	-	to reduce the volume of migration
6. Male migrants	-	to improve the living standards

IV. Give short Answers.

1. Enlist the reasons for migration.
2. What are the major factors responsible for female migrants in India?
3. Name four districts in Tamil Nadu which record low number of imigration.
4. What are the factors responsible for the poorer sections and better-off sections to migrate.
5. List the four destinations and the percentage of migrants from Tamil Nadu.
6. What does the study reveal about the occupation undertaken by migrants?

V. Answer in details.

1. State the aims of migration policies.
2. Discuss the patterns of migration.
3. Elucidate about some of the interesting findings on migration in Tamil Nadu.
4. Analyse the educational qualification of migrants from Tamil Nadu in 2015.

VI. Write the correct statement

1. In recent times workers from Tamil Nadu are moving to Africa.
2. In Tamil Nadu, the extent of migration is much higher in urban areas compared to rural areas.
3. Any migrant stream would consist of homogenous sub-streams.
4. Two out of every 10 persons is reported to be a migrant.

VII. Project & Activity

1. Prepare statistical data by interacting with your class mates and school mates and find out how many families have migrated.
2. Prepare an album of pictures on Rural to Rural, Rural to Urban, Urban to Rural and Urban to Urban migration.

VIII. Life Skills

Collect data on various languages spoken in your class and represent through a pie chart.

REFERENCE BOOKS

1. Rajan S. Irudaya et. al. 2016. 'Non -Resident Tamils and Remittances: Results from Tamil Nadu Migration Survey 2015'. Centre for Development Studies, Thiruvananthapuram.

INTERNET RESOURCES

1. www.censusindia.gov.in/2011census/2011-D05-00-prov.xls

GLOSSARY

GNV6SS

History

Manhunt	–	மனித வேட்டை
Molasses	–	வெல்லப்பாகு
Embossed	–	பொறித்த
Resentment	–	சீற்றம் / கோபம்
Repealed	–	நீக்கப்பட்ட / ரத்து செய்யப்பட்ட
Dock	–	கப்பல் துறை
Incorporated	–	இணைக்கப்பட்டுள்ள
Impoverished	–	வறிய நிலைக்கு ஆளாக்கப்பட்ட
Vehement	–	தீவிர / உணர்ச்சி வேகமுள்ள
Dogmatic	–	வறட்டுச் சித்தாந்தப் பிடிப்பு
Encyclopaedia	–	கலைக்களஞ்சியம்
Emboldened	–	துணிந்த
Reconcile	–	ஏற்றுக்கொள்ள
Intriguing	–	புதிராக
Proponents	–	ஆதரவாளர்கள்
Guillotine	–	தலையை வெட்டும் இயந்திரம்
Entrepreneurial class	–	தொழில் முனைவோர் வர்க்கம்
Deformities	–	குறைபாடுகள்
Migrants	–	புலம் பெயர்ந்தோர்
Pauperized	–	வறியவர்களாக்கப்பட்டோர்
Tainted	–	களங்கமுற்ற
Frustrated	–	விரக்தியடைந்த
Perpetuating	–	தொடர்ந்து கொண்டிருக்கும்
Cartel	–	சர்வாதீனக் கூட்டமைப்பு
Scarce	–	கிடைப்பருமை / பற்றாக்குறை
Commemorate	–	ஒரு நபர் அல்லது நிகழ்வு நினைவாகக் கொண்டாடு

Dwindle	–	அளவில் குறைதல்
Subjugation	–	அடிமைப்படுத்துதல்
Allegiance	–	விசுவாசம்
Rationale	–	காரணம்
Tutelage	–	பாதுகாப்பு
Emporium	–	வர்த்தக ஸ்தலம்
Penetration	–	ஊடுருவல்
Tricked	–	ஏமாற்றப்பட்ட
Flogging	–	கசையடி கொடுத்தல்
Relinquish voluntarily	–	பதவி பொறுப்பைத் துற / கைவிடு
Remittance	–	அனுப்பிய பணம்
Diaspora	–	புலம் பெயர்ந்தவர்கள்
Abortive	–	தோல்வியுற்ற

Geography

Distribution of population	–	மக்கள்தொகை பரவல்
Population density	–	மக்களடர்த்தி
Migration	–	இடம்பெயர்தல்
Immigration	–	குடியிறக்கம்
Human settlements	–	மனித குடியேற்றம்
Liner Pattern	–	நேர்கோட்டு குடியிருப்புகள்
Circular / semicircular pattern	–	வட்ட வடிவ (அ) அரை வட்ட வடிவ குடியிருப்புகள்
Star like pattern	–	நட்சத்திர வடிவ குடியிருப்பு
Triangular pattern	–	முக்கோண வடிவ குடியிருப்பு
Social forestry	–	சமுதாயக் காடுகள்
Fracking	–	பாறைகளை உடைக்க பயன்படுத்தும் நவீன தொழில் நுட்பம்
Miniature	–	ஒரு பொருளின் மிகச்சிறிய அளவிலான மாதிரி
Spatial	–	பொருள்களின் இடஅமைவு, பரப்பு மற்றும் அளவு சார்ந்தவை
Topography	–	நிலப்பரப்பின் இயற்கை தோற்றம்
E.M.R. (Electro Magnetic Radiation)	–	மின்காந்தக் கதிர்வீச்சு
Spectral Signature	–	நிறமாலைக் குறியீடு

Interpreter	–	மொழி பெயர்ப்பாளர்
Satellite imagery	–	செயற்கைக்கோள் பதிமம்
3D – (Three Dimensional)	–	முப்பரிமாண
2D – (Two Dimensional)	–	இருபரிமாண
Riot	–	கலவரம்
Lair	–	குகை
Cataclysms	–	பேரழிவு
Rehabilitation	–	மறுவாழ்வு
Mitigation	–	தணித்தல்
Inquisitive	–	ஆர்வம்
Hazard	–	இடர்

Civics

Reservation	–	ஒதுக்கீடு
Amendment	–	சட்டத்திருத்தம்
Autonomy	–	தன்னாட்சி
Cantonment	–	இராணுவக் குடியிருப்பு
Committee	–	குழுக்கள்
Conceptualisation	–	கருத்துருவாக்கம்
Decentralisation	–	அதிகாரப்பகிர்வு
Dignitaries	–	பிரமுகர்கள்
Dissolution	–	ஆட்சியைக் கலைத்தல்
Grass root level	–	அடிமட்டம்
Judicial	–	நீதிமன்றம் தொடர்புடையது
Assault	–	தாக்குதல்
Rejuvanation	–	புத்துயிர் அளித்தல்
Revitalisation	–	புத்துணர்வளித்தல்
Revive	–	புத்தாக்கம்
Provincial Autonomy	–	மாகாண தன்னாட்சி
Consensus	–	ஒருமித்த கருத்து
Despotism	–	எதேச்சதிகாரம்
Executive	–	செயற்குழு
Judiciary	–	நீதித்துறை
Legislative	–	சட்டமன்றம்

Monarchy	–	முடியாட்சி
Rigid	–	கடினமான

Economics

Fallow land	–	தரிசு நிலம்
Perennial	–	வற்றாத
Catchment areas	–	நீர் பிடிப்புப் பகுதிகள்
Yeild	–	விளைச்சல்
Productivity	–	உற்பத்தி
Census	–	மக்கள்தொகைக் கணக்கெடுப்பு
Migration	–	இடப்பெயர்வு
Population	–	மக்கள்தொகை
Urban	–	நகர்ப்புறம்
Rural	–	கிராமப்புறம்
Colonial period	–	காலனி ஆதிக்கக் காலம்
Skilled	–	திறமை வாய்ந்த
Inequality	–	சமத்துவமின்மை
Heterogeneous	–	பல வகைப்பட்ட

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