

Social Studies

CLASS IX

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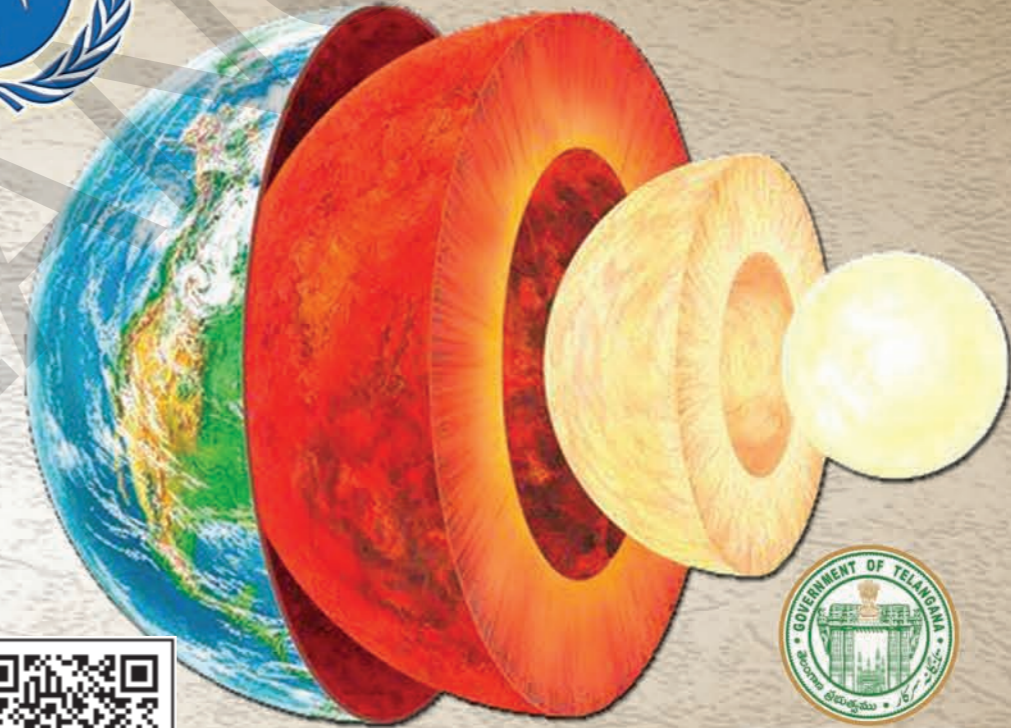


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Social Studies

Class IX

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5.	Click on any link to view the desired content



Our National Flag

The Indian National Flag is the symbol of the land and people of India. Our National Flag is a tricolour panel made up of three rectangular panels or sub-panels of equal widths. The

colour of the top panel is India saffron (*Kesaria*) and that of the bottom is India green. The middle panel is white, bearing at its centre the design of the Ashoka Chakra in navy blue colour with 24 equally spaced spokes. The Ashoka Chakra is visible on both sides of the Flag in the centre of the white panel. The Flag is rectangular in shape with the ratio of the length to the height (width) being 3:2.

Dr. S. Radhakrishnan explained about the National Flag in the Constituent Assembly which adopted it, “Bhagwa or the saffron colour denotes renunciation or with non attachment. The white in the centre is light, the path of truth to guide our conduct. The green shows our relation to the soil, our relation to the plant life here on which all other life depends. The Ashoka Wheel is the wheel of the law of dharma. Truth or *satya*, dharma or virtue ought to be the controlling principles of those who work under this flag. Again, the wheel denotes motion. There is life in movement. India must move and go forward.”

If done properly, there is no restriction on the display of the National Flag by common people, private organizations or educational institutions. Consistent with the dignity and honour of the Flag as detailed in the Flag Code of India, anyone may hoist/ display the National Flag on all days and occasions, ceremonial or otherwise.

Where the practice is to fly the Flag on any public building, it must be flown on the building on all days including Sundays and holidays and, except as provided in the Code, it shall be flown from sunrise to sunset irrespective of weather conditions. The Flag may be flown on such a building at night also but this should be only on very special occasions.

The Flag must not be used as a drapery in any form except in State/ Military/ Central Paramilitary Forces funerals. In such cases also the Flag must not be lowered into the grave or burnt in the pyre. The Flag must not be draped over the hood, top, sides or back of a vehicle, train or boat. It must not be used or stored in such a manner as may damage or soil it. When the Flag is in a damaged or soiled condition, it must not be cast aside or disrespectfully disposed of but be destroyed as a whole in private, preferably by burning. The Flag must not be used as a covering for a building. Although the Flag can be used as a costume or uniform, it should not be used as undergarments or below the waist. It must not be embroidered or printed upon cushions, napkins, etc. Lettering of any kind must not be put upon the Flag. It must not be used in any form of advertisement. Showing disrespect or insult to the National Flag is a punishable offence.

The National Flag must not be flown from a single masthead simultaneously with any other flag. There must be separate mastheads for different flags. The flag mast should be in white colour. When a foreign dignitary travels in a car provided by Government, the National Flag is flown on the right side of the car and the Flag of the foreign countries on the left side of the car.

In the event of the death of the President, the Vice-President or the Prime Minister, the National Flag is half-masted throughout the country.

Over the last five decades, several people including members of the armed forces have laid down their lives to keep the tricolour flying in its full glory. We must salute and cherish our National Flag.

SOCIAL STUDIES

Class IX

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SOCIAL STUDIES

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Letter to students

“Dear Young Friends,

Congratulations on beginning your secondary education! You are privileged to study in class IX. A large number of children of our country are not so lucky. Nearly 50% of the children who enroll in class I do not manage to continue their education after class VIII and drop out to take care of their homes, fields or earn their livelihood by working for others. This is a major loss for them and also to us for when we discuss social problems we will not be able to know about their experiences and views. You therefore have the added responsibility of thinking on their behalf and finding out about their viewpoints about social questions.

School education like so many aspects of modern life, open a new world of opportunities for all of us. Yet only a few are able to benefit from them. Hence we see such poverty and hunger amidst such wealth and riches. As youth, who are privileged to take up higher studies you need to ask why this is so and how things can be changed so that the benefits of modern life is equally available to all.

This book tries to explore the answers to some of these questions, how human societies in recent times managed to achieve such great possibilities as rapid growth of riches and rights, but at the same time failed to end inequality and exploitation.

This book is in two parts, the first part deals with Geography and Economics and the second part deals with History and Social-Political Life. While you will be studying these subjects systematically from Intermediate onwards, here you are being introduced some important topics and methods of study of these subjects.

The chapters in this book analyse some important social issues: they provide some information and some conclusions about them. However, please remember that no chapter can cover all aspects or give you a complete picture. It only helps you to commence on a journey of enquiry. You need to think for your self, read up more books in the library and internet about these topics, discuss them and then form your own opinion. You will not gain anything by memorizing the information or conclusions given in this book. Instead try to think about them and find more about them.

When you seek information about any social problem, you will be engulfed with diverse kinds of information. How can we figure out if it is of use to us or not, if it is correct or not, how to distinguish between information which is correct and which is incorrect? This is the greatest challenge before any scholar who takes up advanced study. First of all you need to check on the source of the information, is it authentic, whose view point it expresses, what biases it shows etc etc. Only then you will be able to come to any conclusion about its use for you.

Books can only tell you what others thought and did. At the end of it you need to decide for yourself your understanding and what you want to do about the social problems you will be studying. You have the responsibility of both understanding the society and acting to make it better. We only hope that this book will help you in this.

– Editors

About this book

This book is a part of your Social Science Curriculum and a part of various things you would be doing to study the society around you. However, remember that it is only one small part of that curriculum. The Social Science Curriculum requires you to analyse and share in the class room what you know. It requires you above all to ask questions – think why things are the way they are. It also requires you and your friends to go out of the class room to the market, to the village fields, to temples and mosques and museums and find out various things. You will have to meet and discuss with a number of people, farmers, shopkeepers, officials, priests and so on.

This book will introduce you to a range of problems and enable you to study them and arrive at your own understanding of them. So, the most important thing about this book is that it does not have answers. In fact this book is not really complete. It can only be completed when you and your friends and teachers bring their own questions and experiences and discuss everything threadbare in the class. You may disagree with many things in this book - do not be afraid to say so - only give your reasons. Your friends may disagree with you, but try to understand why they have a different view. Finally arrive at your own answers. You may not even be sure of your answer - you may want to find out more before you make up your mind. In that case list your questions carefully and request your friends, teachers or elders to help you to find out.

This book will help you to study about the earth and its natural realms, about the agriculture and industrial development as well as service activities; how people follow the financial system and credit, how the government frames the budget and levies the taxes so as to understand the implications on human life.

In this book you may have to study about what happened centuries ago, what cultural changes came in Europe, about the revolutions and industrialization and the impact on society for change, understand the impact of colonialism in various continents; you may also have to study about democracy and its expansion, rights related to human beings especially about children and women protection Acts and try to understand how far they are affecting our present life.

As you study this book in the classroom, you will come across many questions - do stop and try to answer those questions or do the activity suggested before you proceed ahead. It is not so important to finish the lesson fast as it is to discuss the questions and do the activities.

Many lessons will suggest projects which may take a few days to do. These projects will enable you to develop skills of social science enquiry and analysis and presentation - these are more important than remembering what is written in the lessons.

Please remember that you don't have to memorise what is given in the lesson, but think about them and form your own opinion about them.

Energized Text Books facilitate the students in understanding the concepts clearly, accurately and effectively. This book has been “Energized” with QR (Quick Response) Codes. Content in the QR Codes can be read with the help of any smart phone or can as well be presented on the Screen with LCD projector/K-Yan projector. The content in the QR Codes is mostly in the form of videos, animations and slides, and is an additional information to what is already there in the text books.

This additional content will help the students understand the concepts clearly and will also help the teachers in making their interaction with the students more meaningful.

At the end of each chapter, questions are provided in a separate QR Code which can assess the level of learning outcomes achieved by the students.

We expect the students and the teachers to use the content available in the QR Codes optimally and make their class room interaction more enjoyable and educative.

**Director, SCERT,
Telangana, Hyderabad.**

USING THIS BOOK AND NOTE TO THE TEACHER AND STUDENTS

- This book is in continuation with the National and State Curriculum Frameworks which suggested disciplinary approach to teaching needs to begin only at Secondary school level. You have traditionally taught various disciplines of Geography, History, Civics and Economics. However there were various overlaps between the concepts that were discussed under them.
- Text book is designed with the idea that social studies teachers and students need to bring it into the classroom and use it inside the classroom for learning. It is important to read the textbook in classroom and conduct discussion around it.
- **The language of the text:** Efforts have been taken to write the text of this book in child friendly manner. However there are certain terms and jargons that will need explanation and clarification. Text is often trying to give examples that may be suitable to the concept that is discussed. Each chapter has central ideas, these are often provided as subheadings. In a classroom, you may be able to cover 2 or 3 subheadings in a period roughly.
- This textbook uses different styles of writing. Sometimes they are fictionalised narratives like Vasu, Arun and Shivakamini in Chapter 9. These are often fictionalised but based on facts explanation of a scenario. Or there are passages that are in the form of case studies like in section on Effects of industrial activities in Patancheru in Chapter 7. There is information in the form of tables and graphs where comparative elements are put together as in the case of Financial systems and Credit Chapter 9. Concepts are thus explained using different styles.
- **Use of in between questions and end text questions:** You will note that there are questions in between the text. Do not leave out these questions. These are integral to the teaching learning process. These questions are of different types – some of them help you in summarising, evaluating the passages that you may have read out. Or they are for collecting more information that is around the concepts discussed in the previous subheading. Do not try to dictate the answers to these questions, allow children to find the answers on their own. Allow them to have discussions amongst each other in trying to figure out the meaning of these questions and talk about possible answers.
- **There are different types of questions used in the book:**
 - 1) asking children to write their experiences; 2) compare their experiences with that of the examples given in the text; 3) comparing two or three different situations given in the textbooks; 4) questions that ask children to give their opinion about the situation or case study (when these opinions are asked it need not be the same for all children, allow them to express their opinion); 5) questions that are evaluating a particular situation given in the chapter.
- Teacher may adopt different strategies in using these questions in the classroom. Some questions may be written down in the note book; others may be discussed in small groups; a few may be written as individual tasks. In all situations it is important to encourage the child to write in his own words. Avoid instructing all children to write the answers in same style and structure.
- There are certain boxes in the chapters. These are often additional information on the concepts

discussed in the chapter. It is important to discuss them in the classroom, and conduct the activities around.

- **Images used in the textbooks:** In traditional textbook, images in it, serve only a visual relief. However, our purpose in using images is as significant as text itself. There may be a few sketches like in Government Budget and Taxation. We use the images of leaders in various political movements. In all other occasions images are as important as the text, they are useful in explaining the concepts or are illustrative of the ideas used in the textbooks. We have also tried to use different styles of images: like photographs; line drawings; cartoons posters etc as well. These are also taken from different historical points of time. Hence just as different styles used in textbooks there is diversity in the images too.
- **Maps, tables and graphs:** Maps in these books tell us about geographic, economic, political and historical aspects. They are used to present the information in an interesting manner. You will also find the use of tables and graphs. Reading tables and graphs are essential in Social Studies. These often provide much more clarity in explaining the concepts.
- **Projects:** There are different projects suggested in the book. It may not be possible for all projects to be undertaken. It is important to remember we cannot teach all aspects of concepts merely by reading textbook. Projects thus enable children to interact with members of the society, collect new information, arrange and present them in their own manner. Making questions for an interview, planning for a visit to the bank, or creating a presentation that could include images, tabulated data or graphs based on the information they collected are also important in Social Studies skills. These encourage children to work together in groups and conduct exchange and share ideas.
- We can use content related maps, tables & graphs other than text book for practice and evaluation.
- Discussions, conducting interviews, debates and projects are given in the middle of the running lesson and after the improve your learning. To develop social consiousness, sensitivity and positive attitude among the children, these are given. Hence these must be taken up.

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ACADEMIC STANDARDS (AS)

Time should be spent in making sure that children comprehend the passages given in text. In between questions are useful in this context. These questions are of different types that would include the aspects reasoning, cause and effect, justification, mind mapping / concept mapping, observation, analysis, thinking and imagination, reflection, interpreting etc. The key concepts have been discussed subconceptwise in every chapter with examples and also given in the form of keywords.

- 1) **Conceptual understanding (AS1)** : Promoting learning of basic concepts through inquiry, discussion, reflection giving examples through case studies interpreting, observation etc.
- 2) **Reading the text (given), understanding and interpretation (AS2)** : Occasionally there are case studies about farmers, labourers in factory, or images that are used in text which do not directly convey the concept. Time should be given for children to grasp the main ideas, interpret images etc.
- 3) **Information skills (AS3)** : Textbooks alone cannot cover all different aspects of social studies methodology. For example children living in an urban area can collect information regarding their elected representatives or children living in the rural area can collect information about the way irrigation / tank facilities are made available in their area. These information may not exactly match with that of the textbooks and will have to be clarified. Representing the information that they have collected through projects are also an important ability. For example if they collect information about a tank – they may decide to draw an illustration or map etc along with written material. Or represent the information collected through images or posters. Information skill includes, collection of informatic tabulation / records and analysis.
- 4) **Reflection on contemporary issues and questioning (AS4)** : Students need to be encouraged to compare their living conditions along with that of different regions or people from different times. There may not be a single answer to these situations of comparison. Giving reasons for certain happening process and justification of informatic and interpretative.
- 5) **Mapping skills (AS5)** : There are different types of maps and pictures used in the textbook. Developing ability related to maps as abstract representation of places are important. There are different stages of developing this ability, from creating a map of their classroom to understanding height, distance as represented in a map. There are illustrations, posters and photographs used in the textbook, these images often relate to the text and are not merely for visual effect. Sometimes there are activities like write a caption or read the images that are about architecture etc.
- 6) **Appreciation and Sensitivity (AS6)** : Our country has vast diversity in terms of language, culture, caste, religion, gender etc. Social studies does take into consideration these different aspects and encourages students to be sensitive to these differences.

Contents

S.No	Name of the Chapter	Page No	Month
Part I : Natural Realms of the Earth & Economy			
1	Our Earth	1-13	June
2	The Natural Realms of the Earth -Lithosphere	14-26	July
3	Hydrosphere	27-35	July
4	Atmosphere	36-50	August
5	Biosphere	51-58	September
6	Agriculture in India	59-74	September
7	Industries in India	75-95	November
8	Service Activities in India	96-104	December
9	Credit in the Financial System	105-117	December
10	Prices and Cost of Living	118-129	February
11	The Government Budget and Taxation	130-145	February
Part II : World from Medieval to Modern Times			
12	Democratic and Nationalist Revolutions: 17 th , 18 th & 19 th Centuries	146-166	July
13	Industrialisation and Social Change	167-180	August
14	Social Protest Movements	181-188	August
15	Colonialism in Latin America, Asia and Africa	189-203	September
16	Impact of Colonialism in India	204-217	October
17	Expansion of Democracy	218-228	November
18	Democracy: An Evolving Idea	229-239	November
19	Human Rights and Fundamental Rights	240-252	December
20	Women Protection Acts	253-261	January
21	Disaster Management	262-270	January
22	Traffic Education	271-277	February
	Revision - Annual Examinations		March

OUR NATIONAL ANTHEM

- Rabindranath Tagore

Jana-gana-mana-adhinayaka, jaya he
Bharata-bhagya-vidhata.
Punjab-Sindh-Gujarat-Maratha
Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga
Uchchhala-jaladhi-taranga.
Tava shubha name jage,
Tava shubha asisa mage,
Gahe tava jaya gatha,
Jana-gana-mangala-dayaka jaya he
Bharata-bhagya-vidhata.
Jaya he! jaya he! jaya he!
Jaya jaya jaya, jaya he!!

PLEDGE

- Pydimarri Venkata Subba Rao

“India is my country; all Indians are my brothers and sisters.
I love my country, and I am proud of its rich and varied heritage.

I shall always strive to be worthy of it.

I shall give my parents, teachers and all elders respect,
and treat everyone with courtesy. I shall be kind to animals.

To my country and my people, I pledge my devotion.

In their well-being and prosperity alone lies my happiness.”



Our Earth

CHAPTER 1

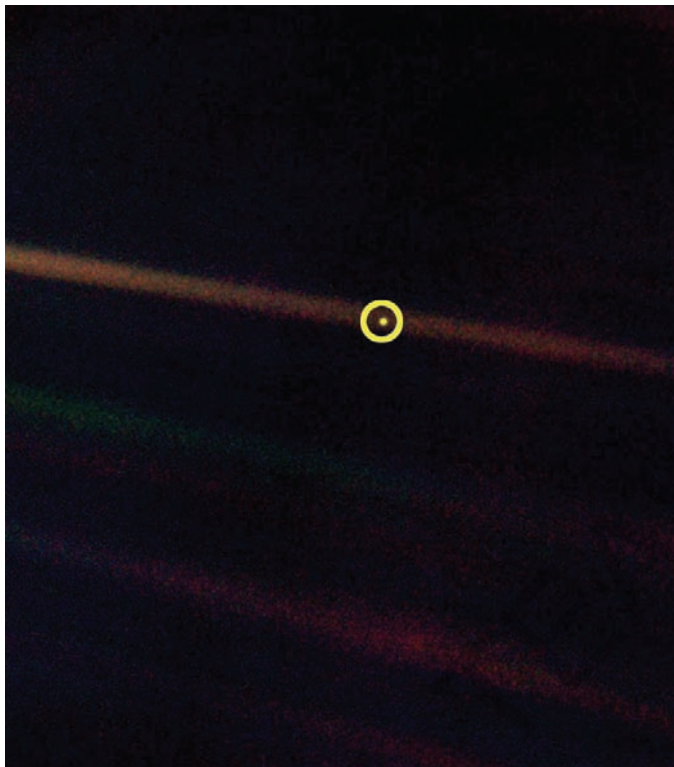


Fig. 1.1: Carl Sagan, a scientist pointed out that all of human history has happened on that tiny pixel shown here inside a yellow circle which is our only home, Earth. This photo taken from the space is known as “Pale Blue Dot”.

rivers, hills, fellow animals and even fellow humans. This has resulted in what many are calling the ‘environmental crises’ like global warming and poisoning of our soils, water and air. Today, more than at any other time, we need to build a new understanding of the Earth, how it works and what we do on it and what we do with each other.

From class VI to VIII, you had studied about diverse people living in different kinds of lands in different times, how they used the forests, soils, water and minerals of the earth. In the following four chapters, we will study about the Earth as a large interconnected system, We will see how the rocks, soils, minerals, water, air, sunshine, forests, animals and humans interact with each other and change each other constantly.

We live on this Earth along with millions of other animals, plants and micro-organisms. Human life evolved on the earth over one lakh years ago. More than any other animal, human beings have been trying to make the Earth a better place to live in. We have been constantly trying to change ourselves and our surroundings. In this process, we have entered into conflict with other inhabitants of the Earth and amongst ourselves. But, above all, we have tried to understand the earth and our activities so that we can live a better life. For long, we have looked at the Earth as a storehouse of resources which we can exploit and use it at will. Gradually, some of us have started realising the fallacy of this viewpoint. Our reckless exploitation of the Earth has meant the destruction of forests,

Our Universe, the Sun and the Earth

For thousands of years, humans have been looking into the sky and trying to understand the objects that shine there –the stars that remain fixed vis a vis each other and the Sun, the Moon and the planets which keep moving across the sky. What are these and in what ways are they related to us? How do they affect us? Many people studied these objects very carefully, noting down all their movements and activities happening in the sky. They tried to figure out what these objects and how they move and work. Initially, people thought that earth was firm and stationary and all others went round it. Since things have been like this for thousands of years, they also thought that the earth, the stars and sun have been like this for ever and will be like this for ever Ptolemy proposed this as Geocentric theory without any change. The books like Vedanga Jyotisha, Surya Sidhanta and Bhagavata Purana written by ancient Indians as old as 3500 years ago reveal a lot of information with respect to Universe. Eclipses, transits, occultations and infinite nature of universes were well mentioned in their writings, which became a guiding principle for their own inventions at a later point of time. About five hundred years ago, scientists came up with a new understanding – that the Earth is not in the middle of solar system, that it is actually moves around the Sun and that the sun itself is also constantly moving and that the countless stars in the sky are actually like our sun. Copernicus proposed this as Sun Centered theory (Heliocentric System). During the last hundred years or so, people have even figured out that stars are born, they grow old and even die!

Scientists have figured out that the stars are actually part of larger groups of stars called galaxies and that there are millions of such galaxies in the universe. Now, they are of the view that the universe itself started some 13.7 billion years ago with a ‘Big Bang’ and that it may end several billion years later.

From this, galaxies were formed. Within the galaxies, stars were formed and around many stars, planets formed and went around them. In our lives, things move very fast, things change every moment. However, these astronomical changes take place over thousands and even millions of years.

Today, human beings are investigating and trying to understand these very distant and complex phenomena! To study all this, several spaceships have been sent into the space, human beings have even landed on the moon. Space capsules have landed on the nearby planet-Mars and some have even gone beyond the end of our Solar System from the earth.

In short, the Sun and the Earth are a part of a much, much larger

- Why do you think are the people today curious to know about the secrets of distant stars and galaxies and the beginning of the universe?
- Initially people thought that the earth was in the centre of the universe and human beings the most important creation. What difference does it make to us to know that we are a small insignificant speck in this vast universe?
- Read about the Solar system and the planets that go around the Sun in Chapter X ‘Stars and the Solar System’ of Class VIII Physical Science textbook for more details.

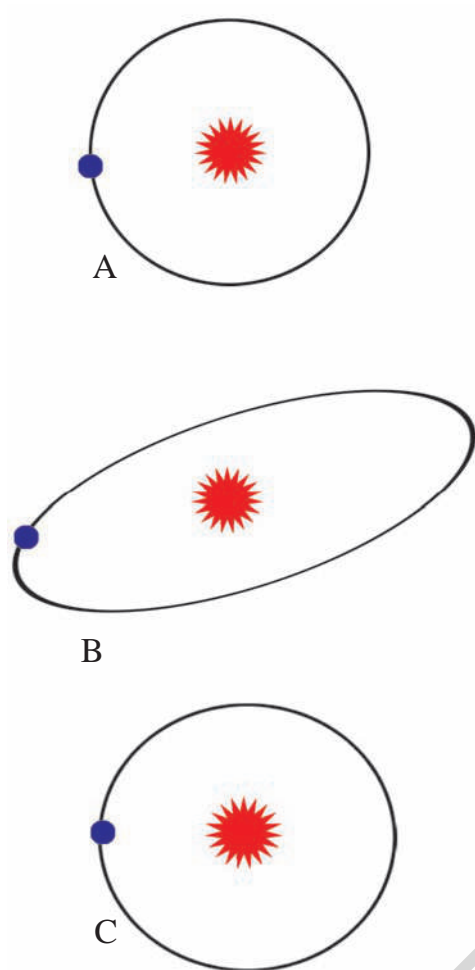


Fig. 1.2: Earth's orbit

universe which is constantly moving and changing! The earth and the life on it are products of these changes and are influenced by them!!

Earth as a Planetary Body

Like all planets in our solar system, Earth rotates on its own axis and goes around the Sun in a definite orbit. The orbit is the path of the Earth around the Sun. This orbit is on a uniform plane which is called the plane of the orbit. Look at these pictures of the Earth, Sun and the orbit. Which one do you think is the correct picture?

A. A circular path

B. An elongated oval path

C. A scaled oval path (For example the Sun is in the middle and 1.4 cm on one side and 1.5 cm on the other side)

Actually, the Earth's orbit is nearly circular (as in figure C), and the difference between the Earth's farthest point (about 152 million km) from the Sun and its closest point (147 million km) is very small. Earth travels around the sun at a speed of 1,07,200 kilometres per hour! At this speed, it takes 365¼ days to complete one revolution. We call this a 'year.'

You have studied in class VIII about the energy received by different parts of the Earth from the Sun and how this movement of the Earth around the Sun causes the seasons like winter and summer.

Tick the factors which cause the formation of seasons on the earth:

- Daily rotation of the earth on its axis.
- Monthly movement of the Moon around the Earth.
- Rotation of the Sun on its axis.
- Revolution of the Earth around the Sun.
- Tilt of Earth's axis of rotation to its orbital plane.
- Spherical shape of the Earth.
- Earth's distance from the Sun during the annual revolution.

The Word Earth

Greek word "eorthe" meaning 'ground, soil, dry land.' (Dictionary Online.com) Indian languages have multiple words for 'earth.' Sanskrit terms include bhoomi, pruthvi, dharani, avani etc. Many Indian languages use variations of these Sanskrit words.

The Evolution of the Earth

Scientists are still debating about how our Earth was formed. Most scientists are of the view that Earth began to form around four and a half billion years ago. The Earth has reached its present form through several phases. It began as a ball of swirling dust and clouds, and passed through a molten stage. At that time, the Earth was very hot and was constantly bombarded by massive rocks and other materials from the space. In this way, the size of the Earth grew. The Earth was so hot that it was molten (in hot liquid form). If you boil a thick soup containing many substances, you may observe that the heavier particles tend to go to the bottom and lighter particles come to the top. These lighter particles cool at the top and form a layer of crust (like the cream of milk). Similarly, while heavier substances formed the part of the molten core, lighter substances rose to the surface and cooled. Slowly, an upper crust of lighter and cooler materials formed covering the molten interior.

As the Earth's interior continued to cool, it contracted and the outer crust wrinkled, forming ridges (mountains) and basins (low areas which became oceans later).

The atmosphere of the Earth consisted of different kinds of gases including water vapour. Most of these gases were such that life as we know it today could not have survived on it. It didn't have oxygen which is necessary for us. It took a long time for the air we breathe to develop.

The rain filled the great basins on the Earth's crust with water. Thus, the oceans were formed.

For one half of the long span of Earth's history, the planet Earth remained barren and lifeless. Then, life appeared in the oceans. It slowly evolved into diverse plants and animals including human beings over millions of years.

- Do you think the Earth was created suddenly or it was formed by long drawn and complex processes?
- Some people believe that our being on this earth is the result of a series of fortuitous accidents – it is quite possible that there may not have been any life on the earth. Do you agree? Give your reasons.

Internal Structure of the Earth

Let us look at the internal structure of the Earth we live on. We can see the continuity from the early days of the formation of the earth as we try to look deep inside the Earth! It took us years of scientific investigation and analysis of data to form an understanding of the interior of the Earth. The main reason for this is that even the deepest mines we have dug do not go beyond a few kilometres under the surface, while the radius or the distance to the centre of the earth is over 6000 kilometres!

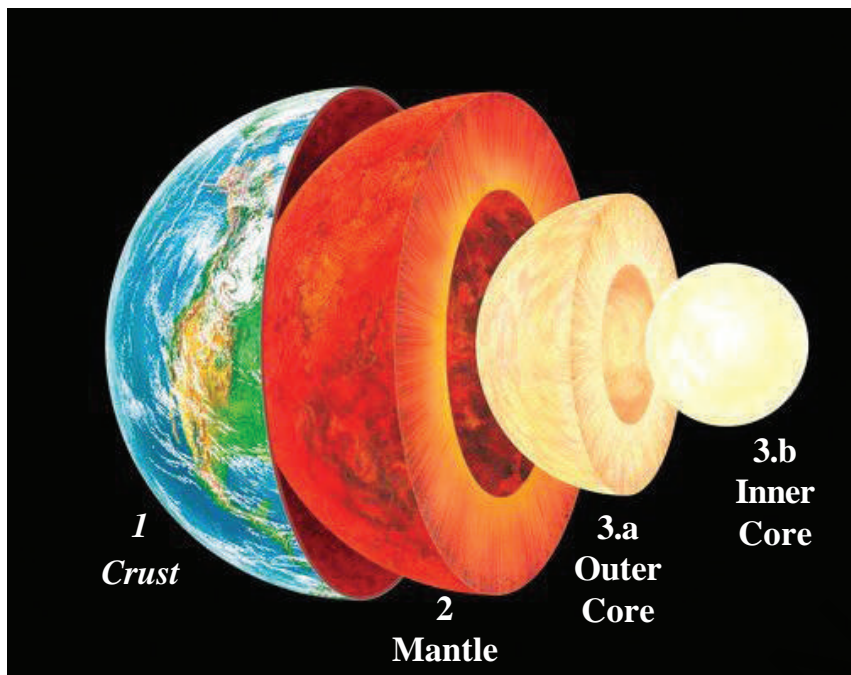


Fig. 1.3: The interior of the earth.

The earth is made up of three main layers :

1. **Crust**
2. **Mantle**
3. **Core**

1. Crust: We live on the outer part of the earth which is called the crust. You saw in the last section how this layer was formed. This layer goes up to a depth of 100 kms. The crust mostly consists of various kinds of rocks.

2. Mantle: It exists at the depths from 100 kms

to 2,900 kms. The upper part of the mantle is a pliable layer over which the crust floats. This consists mainly of chemicals called silicates.

3. Core: It exists at the depths from 2,900 kms to 6,376 kms. It is composed of dense and heavy substances like iron and nickel. It can be divided into two sub layers.

Outer Core: 2,900 to 5,100 kms composed of liquid metallic material like nickel and iron.

Inner Core: The solid inner core (5,100 – 6,376 kms) of the earth is made up of Iron compounds and heavy substances like gold.

Interestingly, matter from deep inside the mantle shoots up through volcanoes and fissures on ocean floors and cools down to form the earth's crust. In many regions on the earth, part of the earth's crust enters into the mantle and once again becomes molten. This constant process of formation and destruction of the crust explains the fact that our Earth is still very active. The crust on which we live is still being changed

by earthquakes, volcanoes, subduction of land and rise of mountains due to processes happening deep down inside the earth.

Do you know?

The crust forms only 1% of the volume of the earth, 16% consists of the mantle and 83% makes the core.

If we assume that the size of the earth is equal to the size of an egg, the thickness of the crust is just about the thickness of the shell of an egg.

- We cannot hope to travel to the mantle to study it. But we can study substances from the mantle. Can you tell what these substances would be and how we can get them?

Movements of the Earth's crust

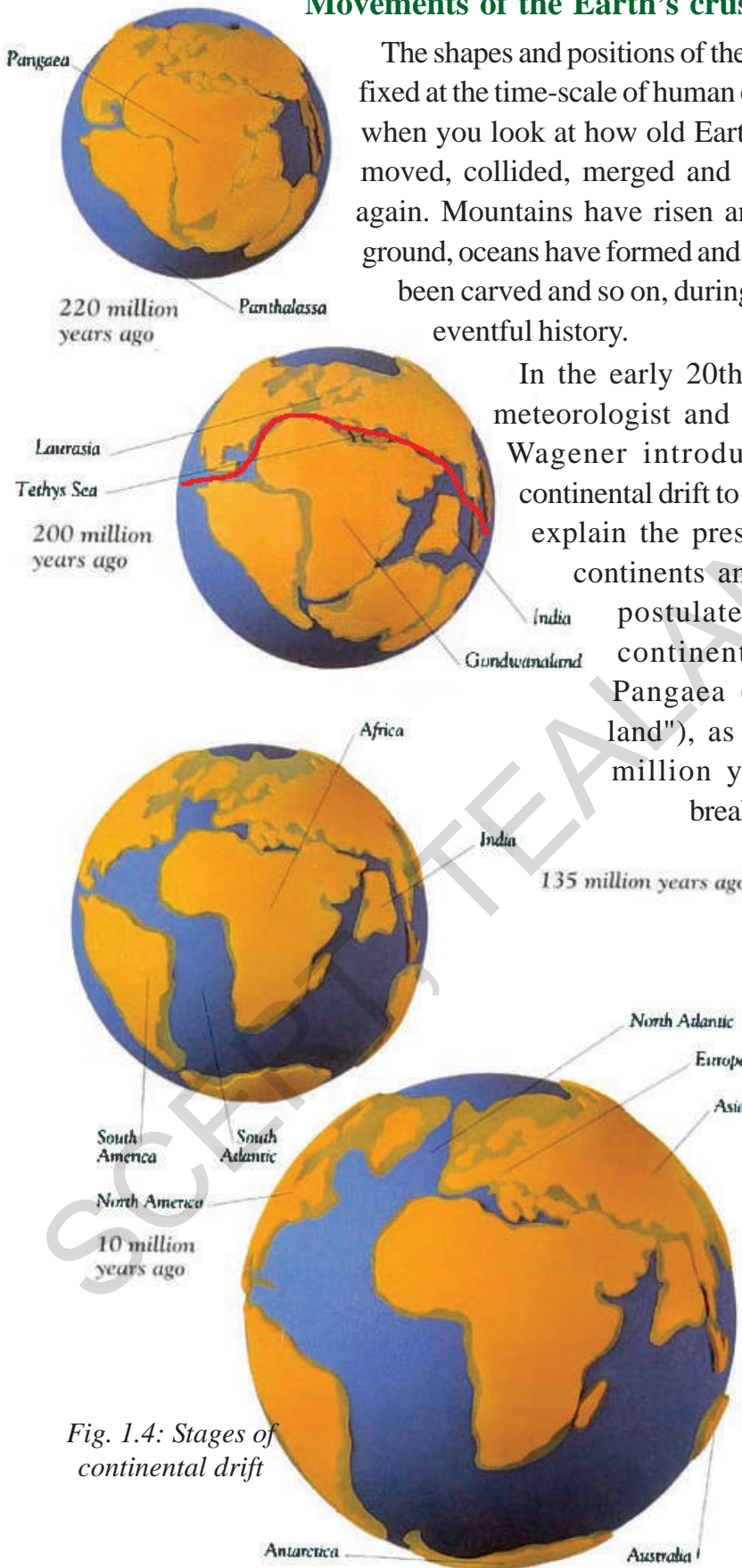


Fig. 1.4: Stages of continental drift

The shapes and positions of the continents may seem fixed at the time-scale of human experience. However, when you look at how old Earth is, continents have moved, collided, merged and then been torn apart again. Mountains have risen and been razed to the ground, oceans have formed and dried up, valleys have been carved and so on, during the course of earth's eventful history.

In the early 20th century, a German meteorologist and geophysicist Alfred Wegener introduced the theory of continental drift to describe and partially explain the present arrangement of continents and ocean basins. He

postulated a massive super continent, which he called Pangaea (Greek for "whole land"), as having existed 220 million years ago and then

breaking apart into several

large sections. He

suggested that these

sections moved

away from each

other. Over millions

of years, some

continents collided

with others. They are

still moving around.

Pangaea is a

hypothetical cont-

inent from which

present continents

originated by the

drift of Mesozoic era

to the present.

Wegener hypoth-

esised that the

supercontinent of Pangaea broke up to form:

1. Laurasia or Angara land (present North America, Greenland, and all of Eurasia north of Indian subcontinent) and

2. Gondwana land (present South America, Africa, Madagascar, India, Arabia, Malaysia, East Indies, Australia and Antarctica).

- Look carefully at the map of the world, do you find some continents looking as if they are two pieces of a jigsaw puzzle? Name those continents.
- In which direction is Australia moved?
- In which direction is India moved?

These two blocks were separated by a long shallow inland sea called the Tethys Sea.

It took millions of years for the continents to reach the present shapes and positions on the globe. Even today, many of the continents are moving very slowly, pushing each other – we will read about this in greater detail in the next chapter.

The Earth's Grid System

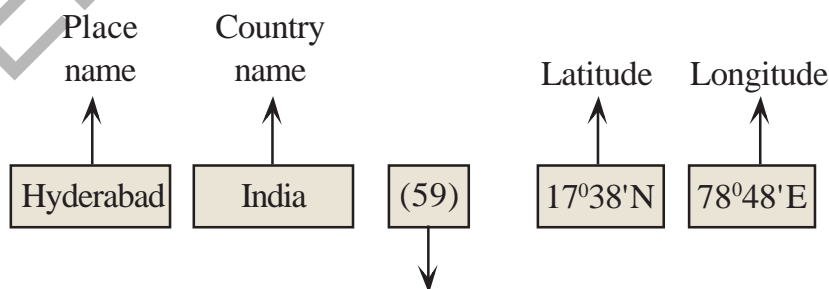
So far, we read about the process of formation of the Earth and its internal structure. Now, we will see how it is shown on maps and globes.

Using an atlas to find latitude and longitude of places

You can find the latitude information in a standard atlas or online using Google Earth. Here is one example of how to find the latitude and longitude information at the end of the atlas where places are listed alphabetically, similar to the way words are listed in a dictionary.

Example: Find the latitude and longitude information for Hyderabad.

Find Hyderabad, India in the list. Next to that, you will find information about that place. This is a typical atlas listing:

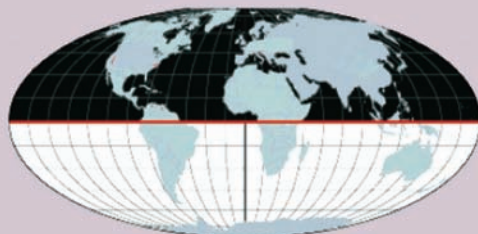


The atlas you use may present the information slightly differently, but these elements will be there.

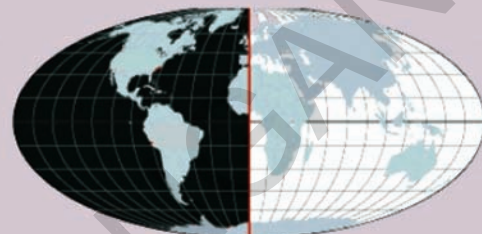
Now, find the latitude and longitude values for the other places in the list of earthquake-prone places. Locate them on a world map. This will also help you to understand the Pacific Ring of Fire and its earthquake-prone places.

On a globe, a network of latitudes and longitudes is drawn. This is called the 'Grid'. With the help of the grid, we can locate places and learn much about them – how hot or cold it would be there, in which direction should we go to reach it, and what time it would be there at any moment.

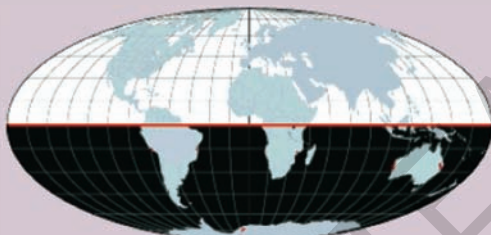
- In earlier classes we have studied about hemisphere. Let us revise it in the image below.



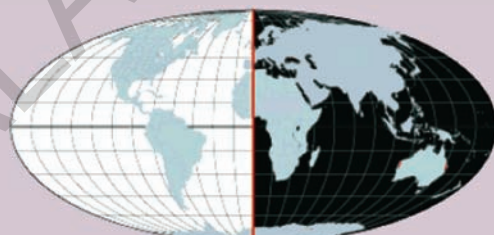
Northern hemisphere



Western hemisphere



Southern hemisphere



Eastern hemisphere

With the help of the above maps complete the following table.

Hemisphere	Continents
Northern hemisphere	
Western hemisphere	
Southern hemisphere	
Eastern hemisphere	

Latitudes

The horizontal circle that goes round the Globe exactly in the middle, at equal distance from the north and south poles is called the 'equator', because it divides earth into (two) equal parts. This is the circle designated as 0° latitude. Following the way angles are designated in geometry, latitudes are expressed in degrees (°), minutes ('), and seconds ("). In many atlases, you will not find the minutes and seconds. Look at the fig.1.5.

From the equator, going towards the poles are a series of parallel circles. Each circle is called a latitude. 'Latitude' comes to us from the Latin word 'latitudo' meaning 'width'.

Latitude values range from 0° (equator) to 90° North (the North Pole) and 90° South (the South Pole). There is no latitude less than 0° nor greater than 90° . Every latitude must be designated with direction – N for ‘north’ or S for ‘south.’ For the equator, there is no north or south designation.

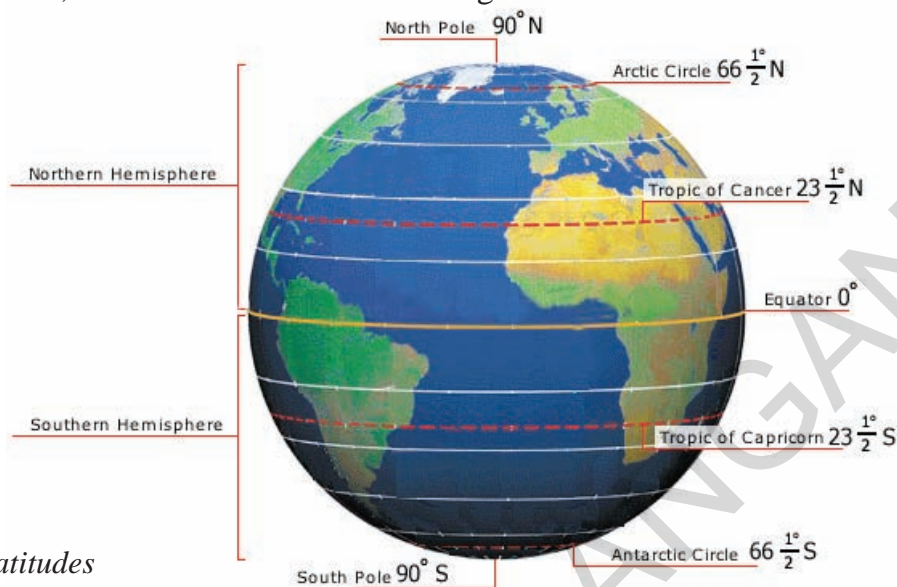


Fig. 1.5: Latitudes

Some latitudes are given special names. These are related to the patterns of sunlight falling on Earth that you would have studied when you learned about the seasons and Earth’s revolution around the sun.

Equator is the largest among all the latitudes. All other latitudes on either side gradually become smaller towards poles. At the poles, the 90° N and 90° S are not circles at all! They are just points.

That half of Earth between the equator and north pole is called the northern hemisphere – ‘hemi’ means half, hemisphere means half a sphere. The half that is between the equator and the south pole is called the southern hemisphere. Counting from one pole to the other, there are 180 latitudes (not counting the equator).

Longitudes

Latin gives us the word ‘longitudo’ meaning length, from which we get longitude. Longitudes are not full circles. They are semi-circles connecting pole to pole. Every longitude cuts across every latitude. The ancient Indian text, Surya Sidhanta postulates a spherical earth and proposes a meridian (longitude) that passes through Ujjain. Aryabhata knew of the meridians that passed through Ujjain, Lanka and Rohtak. Varahamihira knew of all these meridians, including the one that go through Alexandria. Ancient Indians knew the latitude of a place by measuring the inclination of the polar star, Dhruva.

The longitude that passes through the astronomical observatory at Greenwich, England is called the 0° meridian, Prime meridian, or Greenwich meridian.

‘Greenwich’, though it is spelled that way, is pronounced GREN-ich, with accent on GREN.

Several countries tried to fix a longitude that passes through their own territory as the 0° longitude. However, England decided that the Greenwich meridian will be the 0° longitude. They ruled a large part of the world at that time. So, everyone else ended up following their system.

There are 360 longitudes. We organize the main longitudes into two groups: 0° to 180° going east which are the east longitudes, and 0° to 180° going west which are the west longitudes. 0° and 180° longitudes do not have direction markers. Other longitudes have direction markers; for example: 28°E for 28° East longitude, 127°W for 127° West longitude, and so on. Each degree of longitude, just like a latitude, can also be divided into minutes (′) and seconds (″).

The longitude (180°) directly opposite to 0° longitude is called the anti-meridian (anti, means opposite to). The east longitudes form the eastern hemisphere and the west longitudes form the western hemisphere.

After all this, remember: latitudes and longitudes are imaginary lines!

Longitudes and the question of time

It takes 4 minutes for the sun’s position to move 1° of longitude. This means that the time is different for each degree of longitude. Here is an example: When the sun is directly overhead at 10°E longitude, the local time is 12:00 (noon). But it is

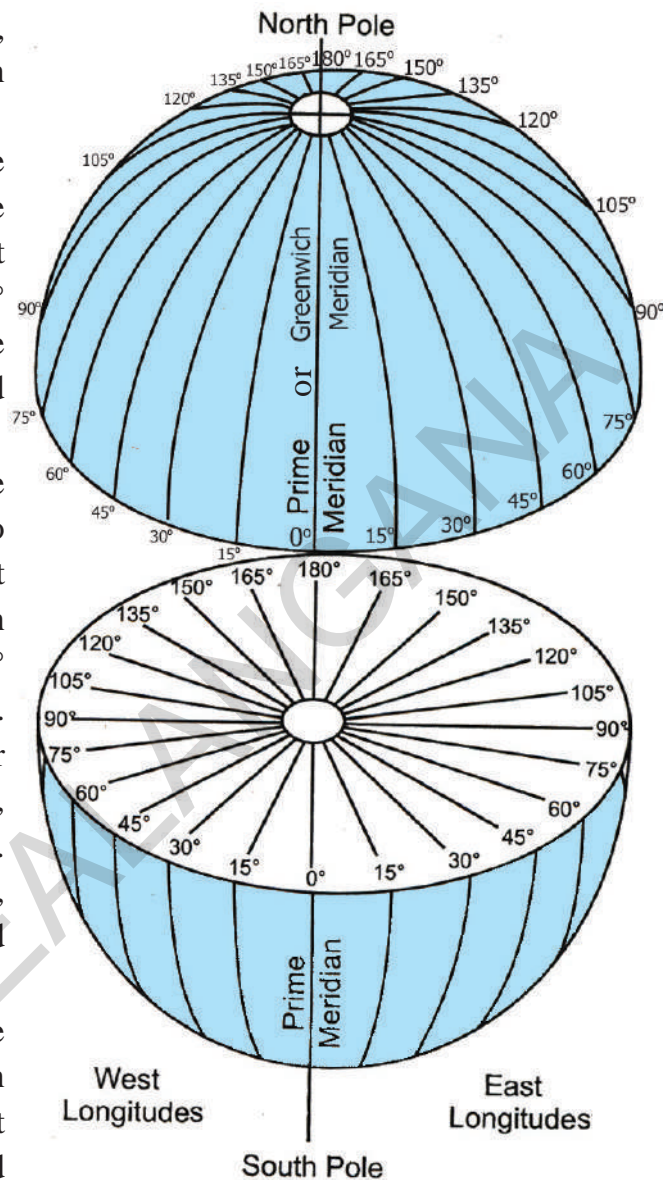


Fig. 1.6: Longitudes

Other names

Latitudes are also called ‘parallels’ because they are parallel to each other! Simple! Longitudes are also called ‘meridians.’ We get meridian from the Latin meridianus meaning noon, that is when the Sun is directly overhead (noon) at a given longitude. So, longitudes are related to time.

11:56 am (ante meridian) at 9°E and 12:04 pm (post meridian) at 11°E. Obviously, this can cause a lot of confusion.

Therefore, the world is divided into 24 time zones starting from the Greenwich meridian, going east and west. The width of each time zone is 15° of longitude. This means that the difference between one time zone and the next is 1 hour (15° of longitude x 4 minutes per ° longitude = 60 minutes). As you go east from Greenwich meridian, you add time; as you go west of the Greenwich meridian, you subtract time.

When it is noon (12:00 in the day) on Monday at 0° longitude, it is midnight (12:00 night) at the opposite longitude (the anti-meridian). Just to the west of 180°, the Tuesday is just beginning, while to its east Monday is just ending.

Time and travel

You know that the earth rotates on its axis. And longitudes are imaginary lines we have made. Hence there is a difference in the time as you travel from east to west or west to east. When you are travelling West to East you gain time of 4 minutes as you cross every longitude. But if you are travelling from East to West you lose 4 minutes as you cross every longitude. These are referred as EGA and WLS (EGA - East Gain Add, WLS - West Lost Subtract).

Notice that if you follow the calculated time zone boundaries, some countries would have more than one time zone with less than one hour division; for example, India would have two hour time zones. That means, the time between western and eastern parts of India would be different by one hour, with the far-flung northeast, even more different. This is considered too complicated to be useful.

In such situations, some countries choose the time along one of the meridians that pass through their territory and follow the time of that meridian for the whole country. This time is called standard time. For India, it is Indian Standard Time (IST), for Pakistan it is Pakistan Standard Time, and so on.

The advantage of this is that in India, for example, wherever you are, it is the same time. In countries which span a large number of longitudes, keeping time is more complex. They may divide their country into more convenient time zones, usually with one hour difference between one time zone and the next.

Do you know?

To avoid confusion of time from one place to the other, 82° 30' Eastern longitude is taken as standard Meridian of India and serves as the Indian Standard Time (IST). The exact difference between Greenwich and IST is +5½ hours.

- Using your atlas, find out how many standard time zones do these countries have: USA, Australia, Russia, Japan, Zimbabwe, and Chile.
- Swathi works for a call centre in Hyderabad. Her clients are in the USA. She answers clients' questions about the computer problems. She always works during the night. Why is this? Use geography to find out!

Tease your brain!

When it is 12 noon in Greenwich (0°), what is the local time at:

- (a) Mumbai (73° E) (b) Chicago ($87^\circ 30'$ W) (c) Sydney (151° E)

Keywords

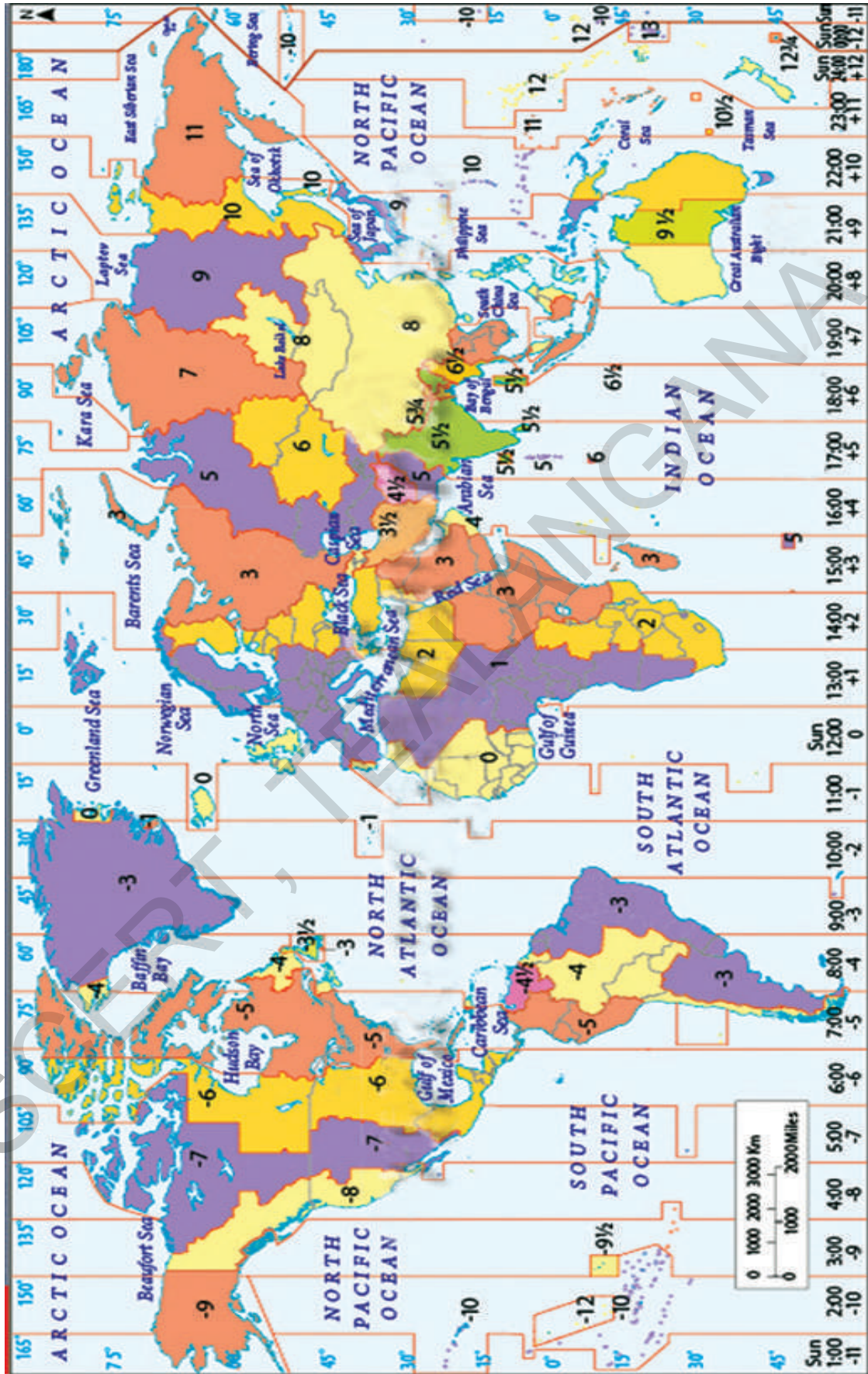
- | | | |
|-------------|---------------|-------------------|
| 1. Big bang | 2. Grid | 3. Gondwana |
| 4. Laurasia | 5. Time zones | 6. Standard time. |

Improve your learning

- Look at the map of India in an Atlas and identify latitude and longitude for the following places:
 Kanyakumari _____ and _____
 Imphal _____ and _____
 Jaisalmer _____ and _____
 Pune _____ and _____
 Patna _____ and _____
- Identify the words that match with Latitude and Longitude (parallel lines, vertical lines, horizontal lines)
- Look at the world map of time zones on the next page.
 - If you travel from New Delhi to Paris, which time zone are you moving to? _____
 - If you are travelling from Hyderabad to Tokyo, which time zone are you moving to? _____.
- Why is it difficult to study the formation of the earth and its structure?
- Read the paragraph under the heading "Internal structure of the earth" and answer the question.
 How can you say that the earth is still very active?
- What is a grid and how does it help us?
- Differentiate between a) Local and Standard time (b) Equator and Prime meridian
- If every state follows its local time then what problems would rise?
- With the help of your teachers, find out the standard meridian of the given countries.
 - Nepal
 - Pakistan
 - Bangladesh
 - England
 - Malasiya
 - Japan
- Make a thought provoking poster on earth's protection.



World - Time Zones





People who study the Earth – the Earth Scientists – usually talk of four natural realms on the Earth. Realms are areas which have some common features. These are 1. Lithosphere, 2. Hydrosphere, 3. Atmosphere and 4. Biosphere.

You have read much about many of these in the earlier classes but in this chapter, we will see some broad features of these spheres or realms, and how they are interrelated and also how human beings interact with them.

1. Lithosphere: It is the solid crust or the hard top part of the Earth. It is made up of rocks and minerals and covered with a thick layer of soil. (In Greek ‘Litho’ means stone or rock and ‘sphaira’ means sphere or ball.) It is not a smooth surface as you see on the globe, but has high mountains, plateaus or high lands, low plains, deep valleys and very deep basins which are filled with water (oceans). Many of these features are shaped by wind and water. Portions of this crust, in the form of dust etc., are mingled with the air too. When the lithosphere heats up due to sunrays or cools down, it influences the air and water too. We and most other living beings live on this realm. We use the rocks and soils and other things found on this hard crust, in many ways.

2. Hydrosphere: The realm of water is called Hydrosphere. (It comes from the Greek word ‘hudor’ meaning water.) Some part of the water is found deep down under the earth among rocks (ground water or mineral water). It comprises of the various sources of water and different types of water bodies like rivers, lakes, seas, oceans etc.

3. Atmosphere: The thin layer of air that surrounds the earth is Atmosphere (The Greek word ‘atmos’ means vapour). It consists of a large number of gases including oxygen, nitrogen, carbon dioxide, water vapour etc and dust particles.

- You have read about mining of minerals like baryte or coal. In what ways do you think does mining affects the lithosphere, hydrosphere and atmosphere?
- Human beings consume a lot of medicines like anti biotics to cure sickness. How do you think does it affect the lithosphere, hydrosphere and biosphere?
- You may have noticed that many of the ‘scientific’ terms use are Greek or Latin words. Why do you think do they use Greek or Latin words? Discuss with your teacher.

4. Biosphere: The realm of life including bacteria which live high up in the atmosphere or in deep oceans constitutes the Biosphere. (From the Greek word, 'bios' means life.) As you may have noted above, life needs the presence of all the three realms – land, water and air.

Now you can realise that these 'realms' are deeply interrelated and influence each other. We will study about the first realm Lithosphere in greater detail. The remaining will be studied in the next chapters.

What kinds of questions do you think would be answered in this section? Tick them in the list given below:

- How does it rain ?
- How do volcanoes erupt and earthquakes occur?
- Why are there mountains ?
- Why are there valleys and gorges along rivers?
- How do the winds blow ?
- How are deltas formed ?

Landforms

Lithosphere deals with the land we live upon. As you saw in the last chapter, the crust of the earth is uneven, the very low basins are now filled with oceans and then there are the continents. These are known as 'first order' landforms or the primary division of the earth's crust into oceans and continents.

Fill up this empty map of the world by naming the continents and colouring them brown and naming the major oceans and colouring them blue.



Map 1: World Map - Continents and Oceans

The surface of the continents is not even – they have plain low lands, plateaus and high mountains. These are also, in a way, a result of the internal processes of the earth. These landforms like mountains, plains and plateaus are called 'Second Order landforms'.

The Jigsaw Puzzle and the Moving Plates!

In the previous chapter, we saw how many continents look like pieces of jigsaw puzzle (Fig. 1.4); how scientists thought that, in the beginning, probably all continents were held together and how they broke up and gradually drifted and came to their present places. After years of careful study, geologists have concluded that all the continents and even the oceans are actually situated on massive base of rocks called 'plates'. There are about seven major plates on the Earth and several minor ones. (The major plates are African, North American, South American, Indo Australian, Antarctic, Eurasian and Pacific Plates. Among the minor plates are the Nazca and Arabian plates). What is special about these 'plates'? These plates actually 'float' on the mantle. They are constantly being pushed and therefore keep moving slowly. They move so slowly that we can't feel the movement. As a result of this movement, one plate pushes another neighbouring plate. The region where the two plates meet and push each other, a lot of pressure is exerted by each of them on the other. One plate is pushed under the mantle while the other plate is pushed up to form a chain of mountains. This movement of plates is called 'plate tectonics'. This process causes earthquakes etc. Now, why are these plates being 'pushed'? Who pushes them?

Do you know?

Tectonics comes from the Greek word – 'tekton' meaning carpenter or builder. It is related to the Sanskrit word 'takshan' meaning carpenter.



Map 2: Map of World plates

Sea floor spreading: Geologists studying the crust under the sea have discovered that under some oceans like the Pacific Ocean, there are mid ocean ridges or ranges. They are formed by the lava rising up from the mantle. The eruptions on the ridge create new ocean floor made of basalt rocks, which then spreads laterally from the ridge. Thus, the mid-ocean ridges contain the newest crust formed on the planet. This fresh crust is being slowly pulled away from the ridge widening the ocean basin. This leads to what is called 'sea-floor spreading'.

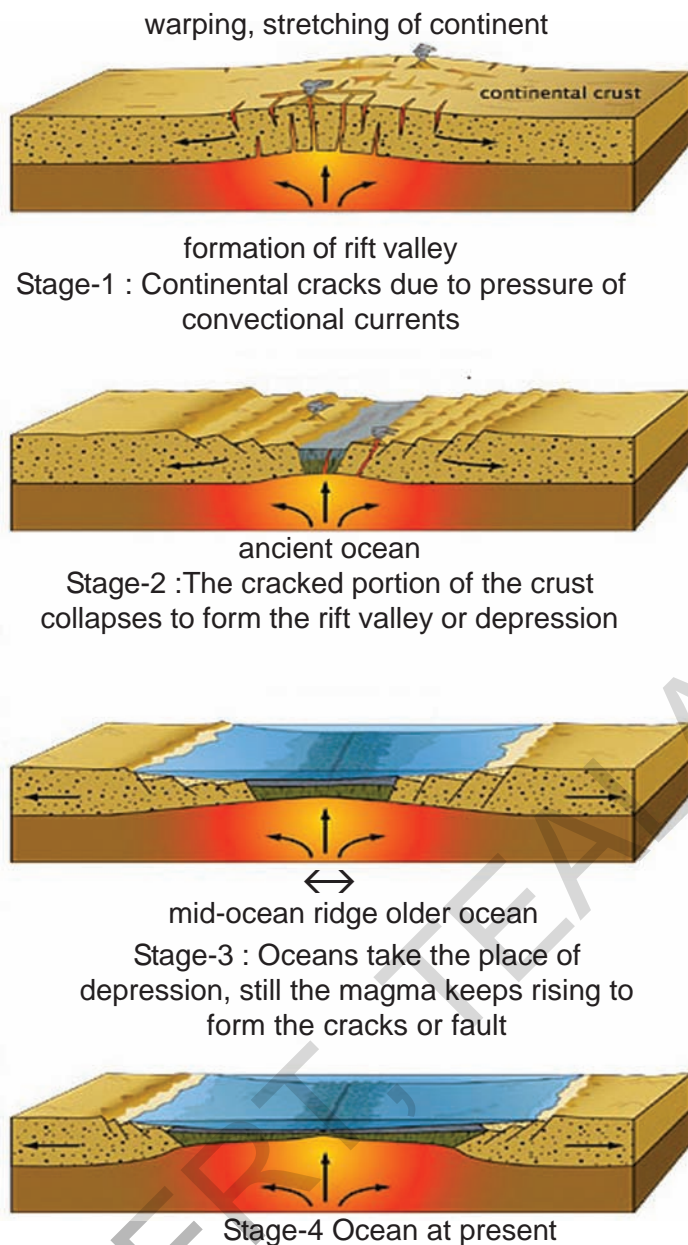


Fig. 2.1: Sea floor spreading

Drama at the margins:

The margins of the plates or the boundaries where the plates meet are the sites of highest geologic activity. We saw how new crust is formed leading to sea-floor spreading along the mid ocean ridges. Similarly, in other margins of the plates where one plate meets another, often the incoming plate dips under the stable plate. In fact, the incoming plate actually goes into the mantle of the earth and becomes molten due to the heat of the mantle. The plate thus going into the mantle actually pulls the rest of the plate with it. This, in turn, pulls the newly formed sea floor near the ocean ridges. For example, the Indian plate (on which the Deccan plateau of south India 'rides') pushes the Eurasian plate and goes under it just where the Himalaya mountains are. Just imagine – one day in very distant future the land you are standing upon will go under the Himalayas and join the molten mantle! In fact, the Himalaya mountains were formed by this process of the Indian plate pushing into the

- Locate the Himalayas, Andes, and Rockies mountains. Why were they formed in those locations? Suggest reasons.
- Are all rocks on the earth formed in the mid-ocean ridges?
- Geologists have found fossils of sea animals on the Himalayas. How do you think are these fossils there on the Himalayas?
- Why do you think we don't feel any of these mighty changes taking place on the earth? Is it because they don't affect us? Do you think these changes affect us at all?

Eurasian plate (just as if you spread a sheet of cloth on a table and push it from one side it will fold and form mountain like formations). Recently earthquakes are occurred in Nepal and Pakistan as the Indian plate subduct the Eurasian plate. Many of the plate boundaries are also characterised by volcanic eruptions and earthquakes. They are the most earthquake prone and volcano prone zones.

Slow Movements and Sudden Movements

In the above section, we saw two kinds of changes in the Lithosphere - first, the very slow movements leading to the formation of the crust, movement of the continental plates and their eventual return to the Mantle. Second, the sudden and dramatic eruption of volcanoes and earthquakes. The sudden movements can be destructive and cause much damage. At the same time, they also lead to changes in landforms.

Volcanoes: See the figure of a volcano. Volcanoes are places on the earth's surface where molten material from the mantle erupts on the Earth's surface. This molten material is also accompanied by steam, smoke and various forms of gases from the depths of the earth. The smoke, ash and dust spreads out in the atmosphere while the molten materials cool and form hard rocks called 'Igneous rocks'.

Some part of the lava may not reach the surface and may cool under the surface and become rocks. These are called 'intrusive landforms'. They are usually covered with older rocks and are exposed sometimes due to

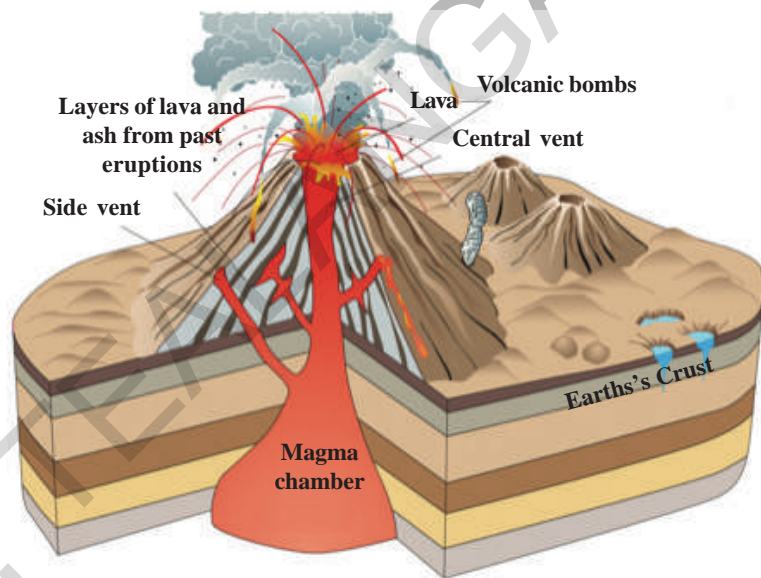


Fig. 2.2: Structure of the Volcano



Fig. 2.3: Stromboli Volcano (most active volcano in the world or light house of The Mediterranean sea)

Important volcanoes in the world

Stromboli	- Sicily
Mt Pelee	- West Indies
Mount Vesuvius	- Italy
Fujiyama	- Japan
Cotopaxi	- Equador
Mayon	- Philippines
Barren, Narcondam	- India
Kilimanjaro	- Tanzania

erosion of the covering rocks. A part of the lava which pours on the surface of the earth forms the 'extrusive landforms'. Not all of them come from volcanoes – some of them are poured out of fissures on the earth's surface and spread all around

- Write an imaginary description of the damages that occur due to Volcanic eruption in an area.

them. Such flows of lava, for example, occurred many times on the Deccan leading to the formation of the extensive lava plateau.

The Pacific Ring of Fire

For many decades, geologists noted the high number of earthquakes and volcanic activity occurring around the 'Pacific Rim' – the edge of the Pacific Ocean basin. About $\frac{3}{4}$ of all active volcanoes in the world lie within the Pacific Rim. The theory of plate tectonics provided the explanation for this pattern. Plate boundaries are found all the way around the Pacific basin. It is along these plate boundaries that many volcanoes and earthquakes occur, giving it the name 'The Pacific Ring of Fire.'



Map 3: The Pacific Ring of Fire

External processes

We saw how rocks and mountains rise up due to the internal processes. External forces like water and air are working vigorously to wear away the surface and the interaction of these constructive and destructive forces gives rise to the great diversity of present day landforms. These external processes, on one hand, wear away the surface of the rocks and mountains, then they transport the worn out particles and deposit them in low lands and basins. The process of wearing away and deposition causes a general levelling of the surface.

This shaping of the landforms by wind and water is called 'Third Order Landforms' by geographers. These land forms include features like carved mountains, valleys, deltas, sand dunes etc. Processes like weathering, erosion, transportation and deposition are largely responsible for these landforms.

It is known as denudation process. Denudation is a continuous process. The lowlands what we see today were once mountains and plateaus. Landforms continuously keep changing due to denudation activities. But these changes occur very slowly. The structure of mountains, plateaus and plains keep on changing through a process known as erosion cycle or geomorphic cycle.

How air and water transform the surface of the Earth?

Rocks were formed out of the molten material coming from the mantle of the Earth. These rocks, over millions of years, have been shaped into valleys and plains of loose soil, river valleys cut into mountains and plateaus etc. Now, how did this happen?

Actually, the hard primary rocks are broken into smaller pieces. These smaller pieces are cut off from the parent rock and carried lower down to other places and deposited there. This process is formally defined as follows:

i) Weathering : Weathering is a process by which the gradual disintegration of rocks by atmospheric forces or weather forces. The rocks, when exposed to heat, expand and contract when they cool down. This happens every day during day and night and year after year in summer and winter seasons. As surface rock contracts and expands and contracts again, it gradually becomes brittle and begins to break down. Water and moisture in the air also help in this process. Water reacts with the chemicals of the rocks and further weakens the rock. These processes by which the rocks are weakened and broken are called 'weathering'. Look at a large cracked rock and you will find that the colour of the internal core of the rock is different from the outer layer – the colour of the outer layer changes due to this process of weathering. You will find it easier to chip small pieces of rock from the outer layer rather than from the core of the rock.

- Why do you think are the rocks harder inside than outside?

ii) Erosion: Flowing water and wind have great power and can slowly wear away or cut away the rocks and soil cover in higher places. Water acts in many ways, as rain, river, flowing ground water, sea waves, glaciers etc. Wind too takes many forms like storms, gusts, steady winds etc. The active wearing away of the earth's surface by these moving agents is called erosion.

iii) Transportation: The eroded material, in the form of small rocks, gravel, mud, fine soil etc. carried by winds and water, is called transportation. Rivers and winds and even waves cut the soil and rocks from one place and take them to distant places – sometimes hundreds of kilometers.

iv) Deposition: When the rivers and winds slow down, they do not have the force to carry the material any more and they dump them. These dumped debris help to form plains and river basins. Much of it is actually transported by rivers to the sea, where layer after layer of these deposits accumulate at the bottom and over time, get transformed into 'sedimentary rocks'.

All four aspects of this process are taking place simultaneously in different parts of the world at different rates, depending on the nature of the slope, the structure of the rocks, the local climate and interference by humans.

Work of Water

Can you recount the course of a river from its source to its end – and guess how it will erode, transport and deposit rock materials?

The work of a river begins from its very source, in the high mountains. The flow of a river is very swift as it descends the steep slopes and it exerts a great force in cutting the mountain vertically. As a result, a deep valley develops, narrow at the bottom and wide at the top. This is usually called a V shaped valley. In this stage, water has such force that it can move even very heavy and hard rocks.



Fig. 2.4: V Shaped valley



Fig. 2.5: Grand Canyon

Do you know?

Biggest Canyon in the world is on the river Colorado. The Grand Canyon is 466 kms in length. Its depth is 1.6 kms and width is 188m to 29km.

- Gorges are suitable for construction of dams – can you think of the reasons for this?

In some cases, where the rocks are very hard, the river cuts a very narrow valley, the sides are so steep that ‘Gorges’ are formed. The Byron gorge in A.P. on the Godavari, Indus Gorge in Kashmir are examples of this. Another important erosion



Fig. 2.6: Indus Gorge

form is Canyon. A Canyon is characterized by steep side slopes and may be as deep as a gorge. A gorge is almost equal in width at its top as well as its bottom. In contrast, a canyon is wider at its top than at the bottom.

The water falls are numerous in the mountain areas where changes of slope are more abrupt. The water falls with great force and digs out the rock beneath to form a ‘plunge pool’.

As the river enters the plain, the slope is gentle and the river also slows down. Now, it does not have the force to carry heavy particles and deposits them on its banks or on its bed. Sometimes, when the river is flooded, it has greater force and cuts the soil (called silt) and when it is not in flood it deposits silt. A layer of sediment is thus deposited during each flood gradually building up a fertile flood plain. This is how vast flood plains like the Ganga Plain or the Krishna-Godavari plains were made. When the flood water comes again, the river bed may have become too high as a result of the deposition. Then it changes its course and cuts new path. This results in the river constantly changing its course in a plain. In its flood plain, the river often forms meanders – gentle turns like a snake (See fig. 2.8). Due to deposition along the sides of the meander, the ends of meander loop comes closer and closer. In due course of time, the meander loop cuts off from the river and forms a cut off lake which is called ox-bow lake.

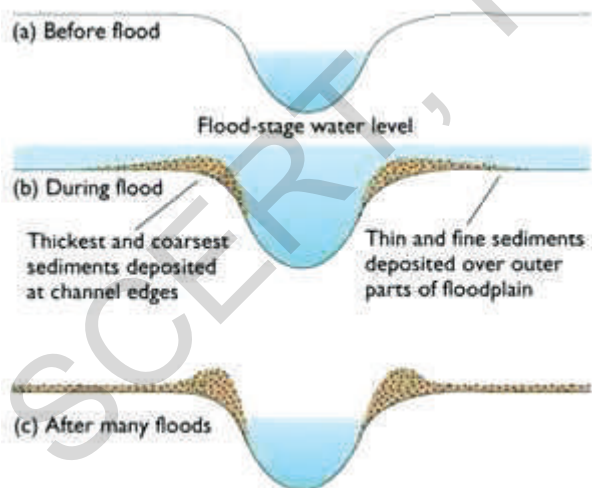


Fig. 2.7: Formation of flood plain

- How are the waterfalls are useful? Explain.
- Collect information about the waterfalls in our state.
- Collect some of the pictures of waterfalls.

Do you know?

1. The highest waterfall in the world is Angel falls - its height is 979 mts, on river Churun, in Venezuela.
2. The second highest waterfall in the world is Tugela falls - its height is 947 mts - on river Tugela, in South Africa.
3. The highest waterfall in India is Kunchikal falls - its height is 455 mts - on river Varahi, in Karnataka.



Fig. 2.8: Meanders

When a river reaches the sea, the fine material which has not yet dropped is deposited at its mouth forming a delta. The word Delta is originated from the Greek alphabet delta (Δ).

- Compare the action of the river in the mountains and in the plains. In what ways are they similar and different?
- Why is a flood plain more suited to human habitation compared to mountains?
- What are the dangers of living on the flood plains?
- Recall the life of people living in the hills or flood plain that you may have read of.

Work of Glaciers

In very cold regions like the Himalayas or the Alps, it snows heavily – they get snow fall instead of rainfall. This snow accumulates and hardens into ice. As it accumulates, it flows slowly down till it reaches warm area where the ice melts and a small river starts. This is how the river Ganga is formed from the Gangotri Glacier in the Himalayas. Slow movement of a mass of ice (a river of ice) is called a Glacier. The movement of glacier is very slow unlike water flow. The movement would be a few centimeters a day or even less or more. Glaciers basically move because of the force of gravity.

A glacier erodes through a process called ‘plucking’, in which it lifts pieces of rock and transports them. These pieces of rock and moving ice together act like a sandpaper on the surface of the rock over which they flow. Just as a sandpaper removes small particles of the wood, the glacier acts as an abrasive and erodes the



Fig. 2.9: Glacier

bed rock. Through this dual process of plucking and abrasion, glaciers create a U shaped valley.

As the glacier melts and becomes water, it does not have the force to carry the large rocks which it leaves behind in the form of huge rugged boulders. Smaller particles and pebbles are left on the bed of the glacier. The glacier brings small pebbles, cobbles, sand etc. with it. All these debris, known as till, are acquired by the glacier from mountainous slopes, side valley, floors etc. The till which cannot be carried by a glacier is deposited around various parts of the glacier. The deposition of this till is called moraines.

Melting of glacier

Do you know?

The largest delta in the world is Sunderbans. It is formed at the mouths of rivers Ganga and Brahmaputra. The rivers Krishna and Godavari together make two large deltas in Andhra Pradesh. Look for these on a map of India.

Work of waves

The erosion and deposition by the sea waves gives rise to coastal landforms. As sea waves continuously strike at the rocks, cracks develop in them over time. Gradually, hollow caves are formed on the rocks. As these cavities become bigger and bigger, only the roof of the caves remain, and form 'Sea Arches'. Further, erosion breaks the roof and only walls are left. These walls like features are called stacks.

The steep rocky coast rising almost vertically above sea water is called Sea cliff. When sea cliffs weather further, they form rugged capes and bays. A cape is head land cutting out into the sea. A bay is wide mouthed recess in the line of the coast. The sea waves deposit sediments along the shores forming beaches etc.

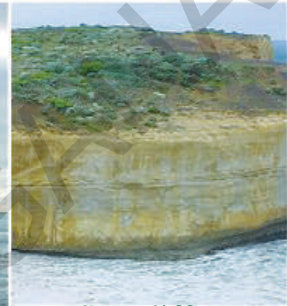
Sea cave



Sea Arch



Stacks



Sea cliff

Fig. 2.10: Coastal landforms

Work of wind

In the previous section, we read about the changes caused by water on the lithosphere. In this section, we shall read about the changes in the atmosphere – particularly the movement of the winds. Wind is a dominant agent in the hot deserts. About 1/5th of the world's land is made up of deserts. Some are rocky, others are stony whereas others are sandy. Strong winds carry sand and fine soil which strike the large rocks. These too act as abrasive sandpaper and erode the hard rocks. The wind action creates a number of interesting erosional and depositional features in the desert.



Fig. 2.11:
Mushroom rock

Mushroom Rock: Winds erode the lower section of the rocks more than the upper part. Therefore, such rocks have narrower bottoms and wider top. They look like mushrooms. So, they are called mushroom rock.

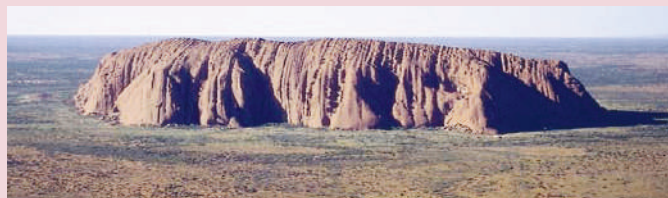


Fig. 2.12: Inselberg

Inselberg: The isolated residual hills rising abruptly from the ground are called inselberg or Island Mountain. They are characterised by their very steep slopes and rather rounded tops

Sand Dunes: Due to weathering and persistent wind action, there is a large accumulation of fine sand in many deserts. These form ‘sand dunes’. These are unstable hills of sand which move with strong winds. They form a number of shapes as they move and settle down.

The fine dust blown beyond the desert limit is deposited on neighbouring lands. Usually, it is yellow in colour and is very fertile. This soil is called ‘Loess’. Loess is, in fact, fine loam, rich in lime, very coherent and extremely porous. The plains formed by the deposition of loess are called Loess Plains.



Fig. 2.13: Various types of sand dunes in Sahara desert

- Compare the Loess Plains with a Delta. What similarities and differences do you see between them?

Action of Vegetation and Human beings

In this section, we shall briefly examine the impact of biosphere on Lithosphere. In what ways do you think does vegetation – trees, plants and grass, affect rocks? They contribute to the weathering of rocks by driving the roots into fine cracks or holes in the rocks. They also enable water and moisture to enter into the rocks which further enables weathering. On the other hand, the plant or grass cover on the soils prevents easy denudation or transportation of soil by wind or water.

- Can you discuss in the class how the following human actions impact the lithosphere?
 - i. Mining
 - ii. Building cities with bricks and cement
 - iii. Agriculture
 - iv. Dams

Human beings, especially after the Industrial Revolution, have had a major role in transforming the crust on which we live.

Keywords

1. Plate tectonics
2. Igneous rocks
3. Sedimentary rocks
4. Loess plains
5. 'U' shaped valley

Improve your learning

1. Find the odd one out in the context of lithosphere and give reasons for your choice

Byson gorge; Grand canyon; Ozone; Thar desert.

2. How is the lithosphere formed?
3. How are the continental plates formed and how are they eventually destroyed?
4. List out the landforms formed due to the river work.
5. Draw a table as given below and fill information. And write a small paragraph to explain the similarities and differences that you can think of in the context of earth's external changes. (if there is no information available in the text, leave the columns blank)

	Wind	Water	Glacier
Landform			
Process			

6. Why are Glaciers not found in your surroundings?
7. How are Beaches formed and name some Beaches.
8. How is the human lifestyle responsible for extension of deserts?
9. Find out the order of the landforms for the following:

S.No.	Landform	Order of Landform
1	The Himalayan Mountains	II order Land form
2	The Pacific Ocean	
3	Asia Continent	
4	Byson Gorge	
5	Jog waterfall	
6	Rocky mountains	
7	The Indian Ocean	
8	The great rift valley	

10. Draw the map of world plates by observing map 2.
11. Read the para under the title 'Erosion' on page 20 and comment on it.

Project

Collect newspaper or magazine articles and news on earthquakes and volcanoes. Prepare an illustrated file on these – how do they happen and how they affect human life.





Hydrosphere

It has been raining on Earth for thousands of years. Have you ever thought about why the water in the seas and oceans never dries up? Less than 1% of water that reaches the earth is useful to human beings. Can this water meet the necessities of all living beings? To know the answers to all these questions, let us read about the Hydrological cycle.

Hydrological Cycle

Water is a cyclical renewable resource. It can be used and reused. Water goes through a cycle from oceans to land and then from land to the oceans. The water cycle has been going on for billions of years and all the life on earth depends on it.

Hydrological cycle is the circulation of water in different forms i.e., liquid, solid and gaseous phases. It also refers to the continuous exchange of water between the oceans, atmosphere, land surface, sub surface and all the living organisms.

The hydrological cycle is sometimes expressed as

$$RF = RO + ET$$

Where RF (Rain Fall) includes all types of precipitation, RO is run off, ET is Evapo Transpiration.

There are six stages in the water cycle.

- Evaporation
- Transportation
- Condensation
- Precipitation
- Run off
- Groundwater

Evaporation: Water is transferred from the surface of Earth to the atmosphere through evaporation, the process by which water changes from liquid to gas. Sun's warmth heats up and evaporates the water from the earth's surface. Land, lakes, rivers and oceans send up a steady stream of water vapours through this process. Plants also lose water to the air through transpiration.

Transportation: The movement of water through the atmosphere specifically from over the ocean to over land, in the form of clouds is transportation. Clouds are propelled from one place to another by either upper air circulation, surface-based circulations like land and sea breezes or other mechanisms.

Condensation: The transported water vapour eventually condenses, forming tiny droplets and clouds.

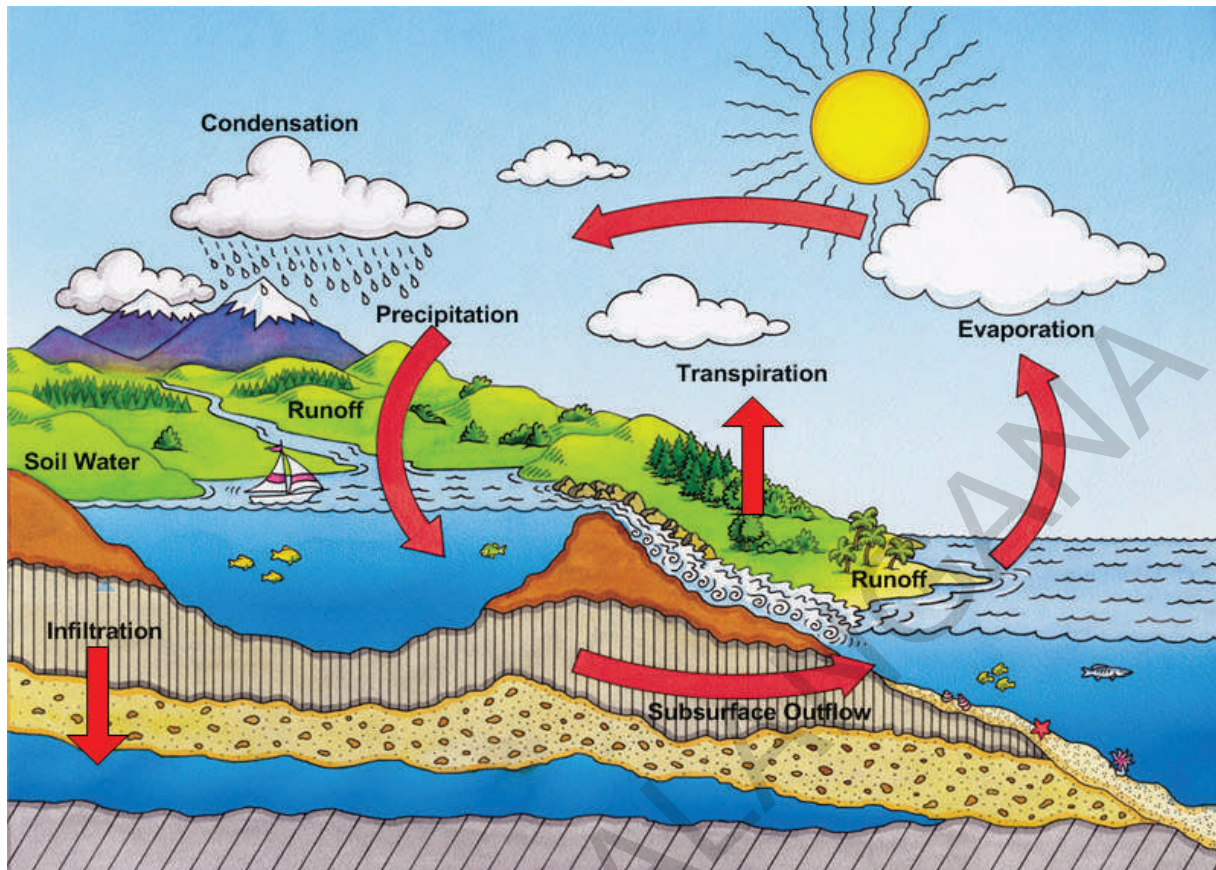


Fig. 3.1: Hydrological cycle

Precipitation: The primary mechanism for transporting water from the atmosphere to the surface of the earth is precipitation. When the clouds meet cool air over land, precipitation, in the form of rain, sleet or snow is triggered and water returns to the land (or sea).

Run off: Most of the water which returns to land flows down the hills as run off. Some of it penetrates into the land and charges the groundwater while the rest, as the rivers flow, returns to the oceans where it evaporates.

Groundwater: Under special circumstances, groundwater can even flow upward in artesian wells. The flow of groundwater is much slower than runoff.

The hydrological cycle is not a simple process of circulation of water between ocean, atmosphere and the land. There are a number of sub-cycles operating within it.

Water Sources

97.2169% of water is saline ocean water and only 2.7831% is fresh water. The greatest portion of the fresh water (69.56%) is in the

Reservoir	Percentage of the Total Water
Oceans	97.2169 %
Icecaps and glaciers	2.15 %
Groundwater	0.61 %
Inland seas	0.0089 %
Lakes	0.008 %
Soil moisture	0.005 %
Atmosphere	0.001 %
Rivers	0.0001 %
Biosphere	0.0001 %

form of ice and permanent snow cover in the Antarctica, the Arctic and in the mountain regions, 30.1% exists as fresh ground waters. Only 0.34% of the total amount of fresh water on the earth is concentrated in lakes, reservoirs and river system, where it is most easily accessible for our needs and absolutely vital for the water ecosystems.

Oceans

Continents and oceans are the first order relief features of the earth. The large water bodies are called oceans. The geographers have divided the oceanic part of the earth into five oceans namely: The Pacific Ocean, The Atlantic Ocean, The Indian Ocean, The Southern Ocean (Antarctic Ocean), and The Arctic Ocean.

The word 'sea' is often used interchangeably with 'ocean', but strictly speaking, a sea is a body of saline water, partly or fully enclosed by land.

The major oceanic divisions are defined in part by the continents, various archipelagoes and other criteria. See the table below for more information: Note that the table is in descending order in terms of size.

Rank	Ocean	Notes
1	The Pacific ocean	Separates Asia and Oceania (Australia, New Zealand, Papua New Guinea together) from the Americas.
2	The Atlantic ocean	Separates the America from Europe and Africa.
3	The Indian ocean	Washes upon Southern Asia and separates Africa and Australia.
4	The Antarctic ocean (Southern ocean)	Sometimes considered an extension of the Pacific, Atlantic and Indian oceans which encircles Antarctica
5	The Arctic ocean	Sometimes considered a sea of the Atlantic, which covers much of the Arctic and washes upon North America and Eurasia.

Do You Know?

Millions of years ago, oceans were combined together. The single super ocean was known as 'panthalsa'.

Formal oceanographic investigation began only with the British expedition of Challenger, the first successful world wide deep-sea expedition.

Relief of the Ocean

The ocean basins are in many ways similar to the land surface. There are submarine ridges, plateaus, canyons and terraces found within oceans. Ocean floor is divided into four parts.

1) Continental Shelf: The continental shelf, with a depth of up to 200 mts, occupies about 7.6% of the ocean area. It is the border zone between land and sea. The largest continental shelf is Siberian shelf in the Arctic Ocean, stretching to 1,500 kms in width.

Continental Shelf is important because:

- Fish wealth is more in this region.
- Crude oil, natural gas are found here.
- Building seaport is possible here.

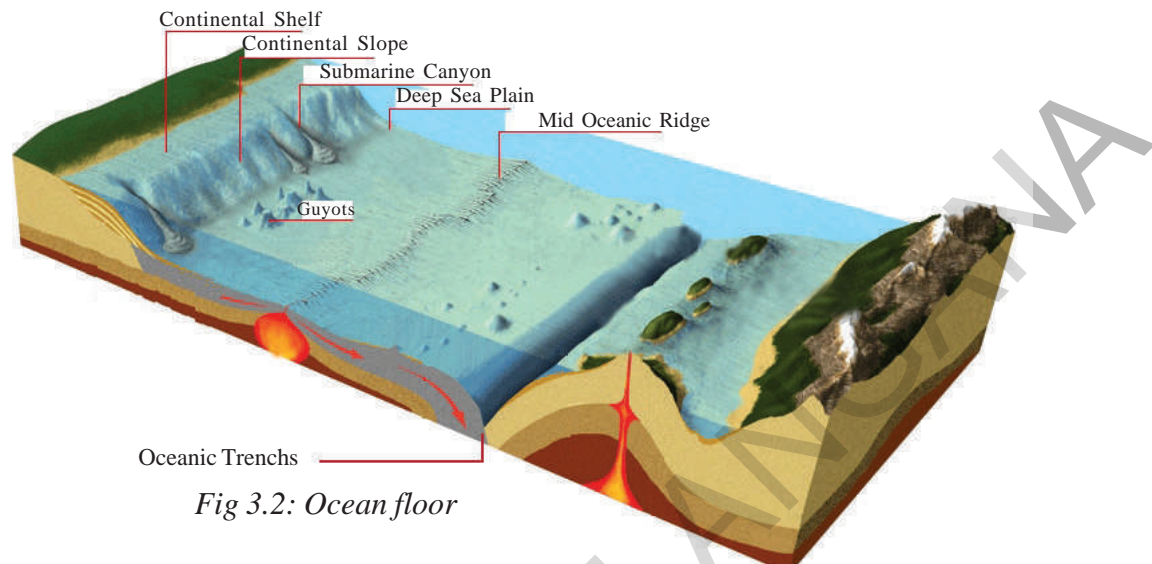


Fig 3.2: Ocean floor

2) Continental Slope: The Continental slope is spread from 200 mts to 3,000 mts depth, with a complex relief. It comprises of 15% of the ocean area. The continental slope boundary indicates the continents. Submarine canyons have also been observed in this region. These are formed by the process of erosion of glaciers and rivers.

3) Deep Sea plain (or) Abyssal Plain: Deep sea plains are gently sloping areas of the ocean basins. These are the flattest and smoothest regions of the world. The depths vary between 3000-6000 mts. It covers about 76.2% of the ocean basin.

4) Oceanic deeps (or) Trenches: These are large narrow trenches that plunge as great ocean deeps to a depth of 6,000 mts. Contrary to our expectations, most of the deepest trenches are not located in the midst of oceans. They are found more close to the continents. That is why they are very significant in the study of plate movements. As many as 57 deeps have been explored so far.

Do You Know?

Isobaths – A line joining points on the sea bed at an equal vertical distance beneath the surface. Sometimes referred to as depth contours.

Do you know major ocean trenches?

Sl. No	Name of the trench	Ocean	Depth (mts)
1	Challenger (or) Mariana	The Pacific Ocean	11,022
2	Puertorico (or) Naves	The Atlantic Ocean	10,475
3	Java	The Indian Ocean	7,450

Salinity of the Ocean

Have you ever eaten food without salt? Was it tasty? Did early human beings use salt in their food? Where is salt available other than the oceans? Is salt used just for taste or for any other reasons? Is water salty in your village tank? If not, why is ocean water salty? Did you know that using salt as a medium of protest, Mahatma Gandhi had led the civil disobedience movement (or) Dandi march which was one of the biggest freedom movements in the world?

Have you ever wondered why the oceans are filled with salt water instead of fresh water? Where did the salt come from and is it the same salt you find on your dining room table? Most of the salt in the oceans come from land. Over millions of years, rain, rivers and streams have washed over rocks containing the compound Sodium Chloride (NaCl), and carried it into the sea. You may know Sodium Chloride by its common name table salt. Some of the salt in the oceans comes from under sea volcanoes and hydro thermal vents. When water evaporates from the surface of the ocean, the salt is left behind. Over millions of years, the oceans have developed a noticeably salty water.

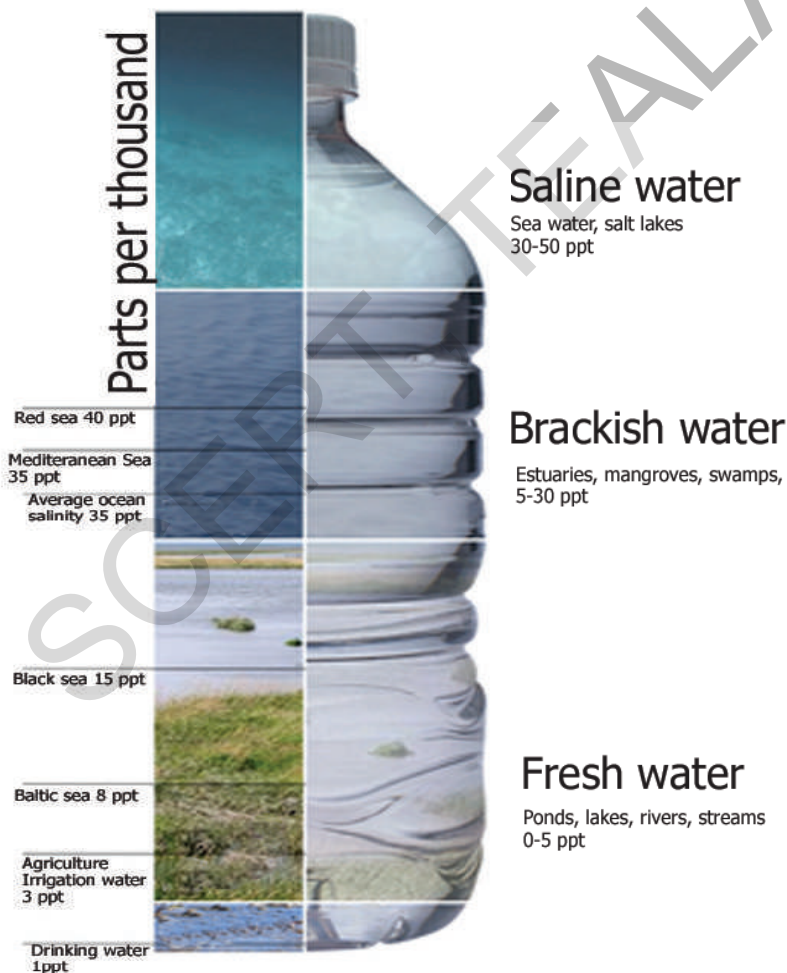


Fig. 3.3: Water Salinity

Salinity is the term used to define the total content of dissolved salts in sea water. It is calculated as the amount of salt (in grams) dissolved in 1,000 gms of sea water. It is usually expressed as parts per thousand (‰) or PPT. Generally speaking, the average salinity of the oceans is 35‰ or about 35 parts of salt in 1,000 parts of water. All sea water contains large amounts of dissolved mineral matter, of which Sodium Chloride or common salt alone constitutes 77.8‰.

Do You Know?

River water contains 2‰ of sodium chloride.

Factors affecting salinity on the surface layers of the Ocean:

1. Evaporation and precipitation.
2. In coastal regions, by the fresh water flow from rivers and in Polar regions, by the process of freezing and thawing of ice.
3. Winds by transferring water to other areas.
4. The ocean currents.

Do You Know?

Highest Salinity in Water bodies

- 1) Don Juan Pond – Antarctica – 440‰
- 2) Lake Retba – Senegal – 400‰
- 3) Lake Vanda – Antarctica – 350‰

Lowest Salinity in Water bodies

- 1) Baltic Sea – 10‰
- 2) Hudson Bay – 3-15‰

(Source : worldatlas.com)

Isohaline: A line joining the points in the ocean having the same degree of salinity.

- Give reasons for the low salinity of Baltic sea.

Ocean Temperature

When compared to land, the temperature in the oceans does not show much variation. But these little variations show great impact. For example, the activeness of South West monsoon in India is affected by 'El Nino' and 'La Nina'. These are the effects caused by the changes in temperature in the Pacific Ocean. The ocean temperature is influenced by latitudes, winds, ocean currents, unequal distribution of land and change of seasons.

Normally, the temperature in the oceans varies from -2°C to 29°C .

Vertical Distribution of Temperature: As one goes deep inside the oceans, the temperature decreases. The fall in temperature is very steep for the first kilometre. After that, there is a steady decline upto a depth of 5 kilometres. Below that, the temperature is steady at about 2°C .

Do You Know?

The highest temperature is recorded in Inland Seas. The temperature is the highest in Red Sea i.e. 38°C .

Ocean Currents

The ocean current is the general movement of a mass of water in a fairly defined direction over a great distance. The ocean currents are sometimes called ocean rivers. Ocean currents may be classified, based on temperature, as cold currents and warm currents.

Generally, warm currents flow towards the poles, cold currents flow towards the Equator. Ocean currents are classified as stream and drift, based on their speed.

The ocean water current which flows speedily is called a stream and that which flows slowly is called a drift. Ocean currents are caused by the following factors.

1. Centrifugal Force: The Centrifugal force at the equator is greater than that at the poles because the great circles at the time of revolution coincide with the equator. The variation of these forces makes the equatorial water to move towards the poles.

2. Effect of Winds: The stresses due to wind and the wind movement modifies the direction of the currents. Due to the frictional gliding of winds, water is dragged along the wind direction. Thus, a wind at the speed of 50 miles per hour will produce a current whose velocity would be 0.75 miles per hour.

3. Precipitation: The equatorial areas receive the greatest rainfall. Hence, the sea level is higher. As a result, water moves north and south from the equator.

4. Solar Energy: Heating by solar energy causes the water to expand. That is why, the ocean water is about 8 cm higher in level near the equator than in the middle latitudes. This causes a very slight gradient and water tends to flow down the slope.

Salinity, density differences, melting of ice also affect the ocean currents.

Ocean as a Resource

Most life on earth is under the water. Human beings still have not finished identifying all the different forms of life in the oceans. Human beings have depended on oceans for their food and livelihood from the ancient times. Oceans provided abundant food resources like fish and salt. We also use the sand, gravel etc. for our industries or housing. Humans extract minerals like chlorine, fluorine, iodine from it. Ocean waves are used for generating power. Ocean floor is mined for oils. Oceans



Fig. 3.4: Petroleum drilling at Bombay High

also provide us with gems and pearls. For centuries, we have created our civilisations on its shores and traded across with each other travelling on them.

Yet today, oceans have also fallen victim to our exploitation. Many large fish like whales have been disappearing. Oceans have also become dumping ground for plastic and other forms of toxic waste.

Do You Know?

Access of Pure Water	
69.56%	Ice and snow
30.10%	Underground water
0.34%	Rivers, lakes and reservoirs
100.0%	Total

Keywords

1. Stream
2. Drift
3. Ocean currents
4. Transpiration

Improve your learning

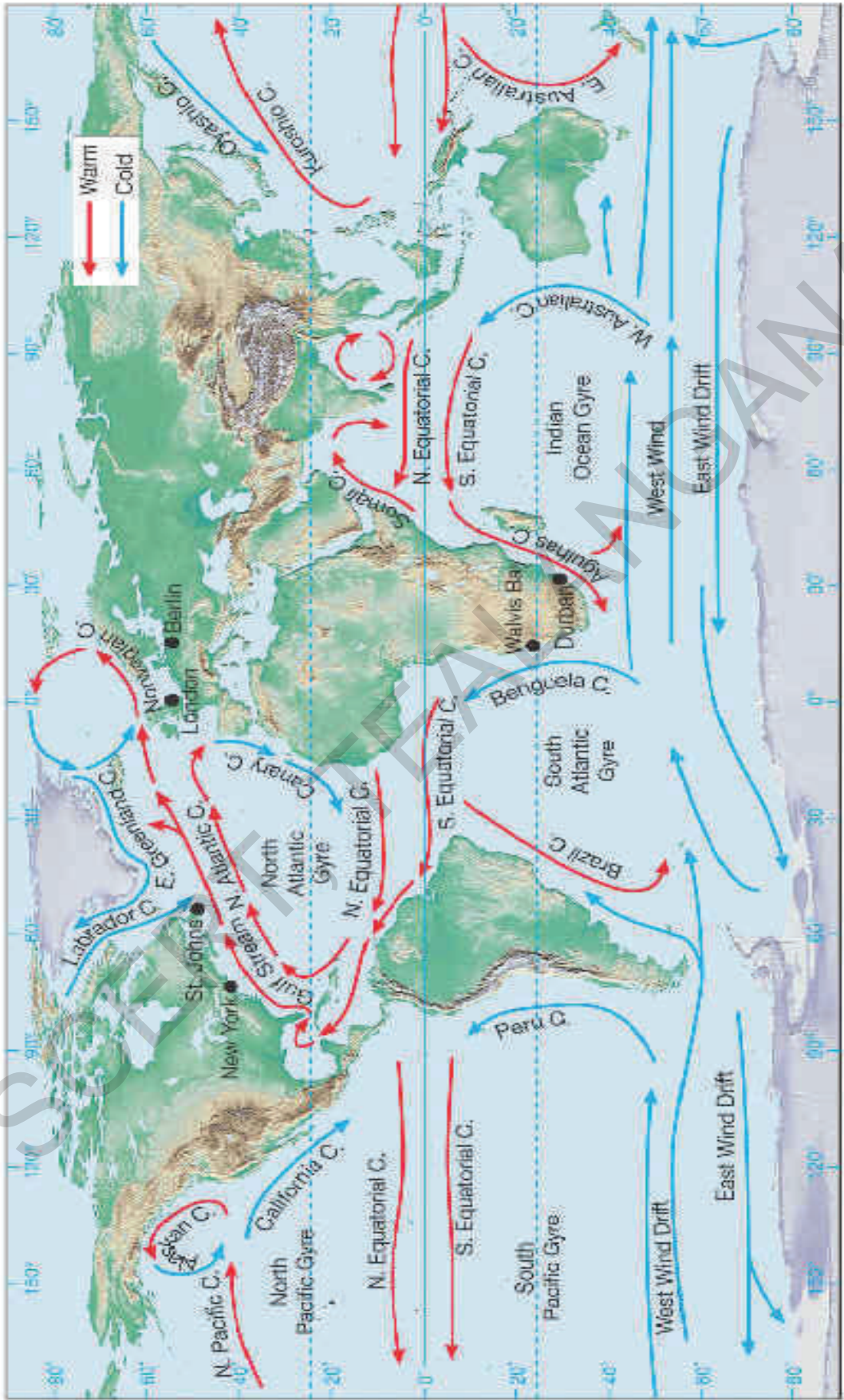
1. Find the odd one out and give an explanation for your choice.
 - (i) a) evaporation b) condensation
 - c) salination d) precipitation
 - (ii) a) tectonics b) centrifugal force
 - c) solar energy d) precipitation
2. Correct the false statements.
 - a) Ocean trenches can be located near the continents
 - b) Relief features of the oceans are like plains
 - c) Most salt in the seas is washed into it from land over centuries
 - d) Temperature of ocean water remains the same across the globe
3. Do you think that the description of blue planet is accurate? Describe any one way in which your activity impacts its oceans.
4. Why are there differences in the salinity of oceans?
5. How is human life dependent upon oceans?
6. Observe the map 1 on page 35 and write down the names of a few warm and cold currents.
7. Read the para 'Ocean as a Resource' on page 33 and comment on it.



Project

Prepare a list of currents which are found in the Pacific, Atlantic and Indian oceans. Identify the cold and warm currents in different oceans. Fill in the table.

The Pacific Ocean		The Atlantic Ocean		The Indian Ocean	
Warm currents	Cold currents	Warm currents	Cold currents	Warm currents	Cold currents



Map 1: Ocean currents

Atmosphere



In the previous chapters, you read about Lithosphere and Hydrosphere. In this chapter, we will read about Atmosphere.

We breathe the oxygen present in the air. Living beings can't live without it. When we breathe out, we give out carbon dioxide. Apart from giving oxygen to us, atmosphere also makes life possible for us in many other ways. For example, it prevents the harmful rays of the sun from reaching us. Green plants take in the carbon dioxide present in the atmosphere, use sunlight and water to photosynthesis, and we end up getting delicious fruits, vegetable, grains etc. from them. These give us proteins, carbohydrates, sugars, fats, minerals, and other nutrients that we need to live. It is the atmospheric winds that transports water from the oceans to the continents in the form of rain. Without this, the different types of rocks would not erode. This means that different kinds of soils would not be available. So, we would not be able to grow different kinds of crops.

We wouldn't be able to enjoy the cooling monsoon rains, the scents of fragrant flowers, and the sounds of music in the absence of atmosphere. We would not be able to fly the beautiful kites as there would be no wind. Birds would n't fly or soar in the sky. Flags would not flutter.

So, what is this wonderful and awesome thing called atmosphere?

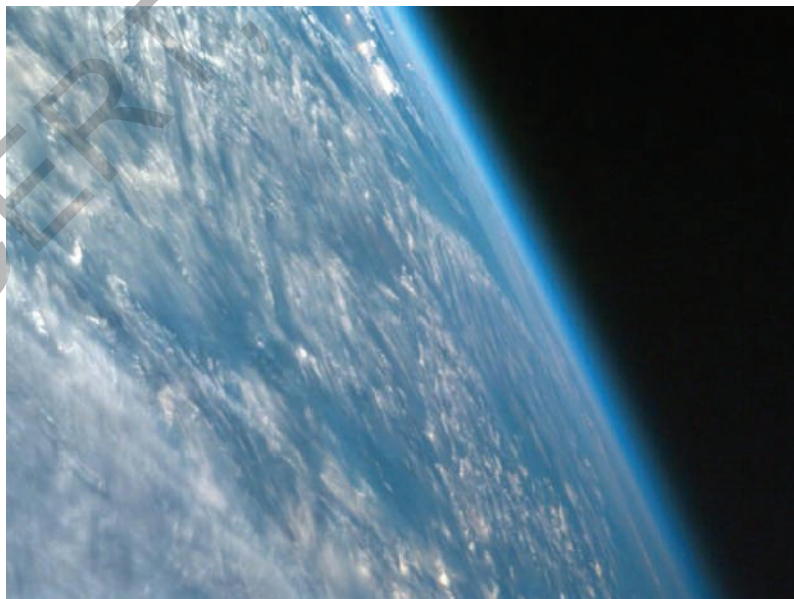


Fig. 4.1: A picture of Earth taken from about 322 km above the Earth. The atmosphere is that thin blue band between Earth and the black colour of space

Atmosphere is a sea of gases surrounding the Earth. In a sense, we are all swimming in a sea of gases (just as fishes swim in a sea of water). When we compare it with the size of the Earth, atmosphere is a very thin blanket surrounding Earth. The atmosphere is about 1,000 kms thick. [National Aeronautics and Space Administration (NASA), the space agency of the USA] gives this description: if Earth were the size of a basketball, the atmosphere would be like a thin sheet of plastic wrapped around it.

- What will happen if water vapour is not present in air?
- Our skin dries up more during winters. Why?

Being composed of gases, the atmosphere exhibits all the properties of gases – it compresses and expands and it has no shape. (Gas can be stuffed more and more into a small space like you do it in

your cycle tube – this is compression of gas.) There are many gases in the atmosphere, but oxygen (about 21% in volume) and nitrogen (about 78% in volume) dominate. Other gases are present in very small percentages; these include argon, neon, carbon dioxide (about 0.03% by volume), methane, ammonia, ozone etc.

Water vapour accounts for about 0.4% of volume in the atmosphere, but most of it is close to the surface (within about 6 km above Earth). Yes, water vapour is a gas! No, the clouds that you see in the sky are not water vapour, they are water droplets.

Apart from these gases, the atmosphere also has fine dust particles; these are called particulates. Particulates may come from natural processes (for example: sand storms over deserts and natural forest fires) and from human activity (for example: burning forests, burning petroleum and industrial emissions).

These particulates can change the atmospheric conditions that may be beneficial for life on Earth. Have you ever seen a beautiful, bright orange sunrise or sunset? Particulates in the atmosphere cause that bright colour! And that rainfall you love

- List out some of the ways in which particulates in the atmosphere are beneficial and harmful to us.
- Why is atmosphere important for us?
- Can you imagine why life is not possible on the Moon?

to play in? The hail stones you love to collect and eat? The particulates make these also possible. The particulates can also cause problems by altering the temperature and rainfall patterns. For example: they can make it difficult for people to breathe, they can settle on leaves and make it difficult for plants to breathe and photosynthesise.

Structure of the Atmosphere

Just like the interior of the earth is arranged as layers, atmosphere too is arranged into various layers, having different compositions. Can you imagine the layers? It is not an easy job to study the structure of the atmosphere which is very

widely spread. Scientists research about it through air balloons, satellites etc. On the basis of chemical composition, the atmosphere is divided into two broad layers:

- 1) Homosphere
- 2) Heterosphere

Homosphere: Homosphere extends up to a height of 90 kms. It consists of three layers: Troposphere, Stratosphere, Mesosphere. It is characterised by uniformity in composition of gases like nitrogen, oxygen, argon and carbon dioxide.

Heterosphere: The layer above 90 kms of the homosphere is called heterosphere. It has a heterogenous composition and hence, the name heterosphere. It has two layers called Thermosphere and Exosphere.

Atmosphere can also be divided into various layers based on density and temperature.

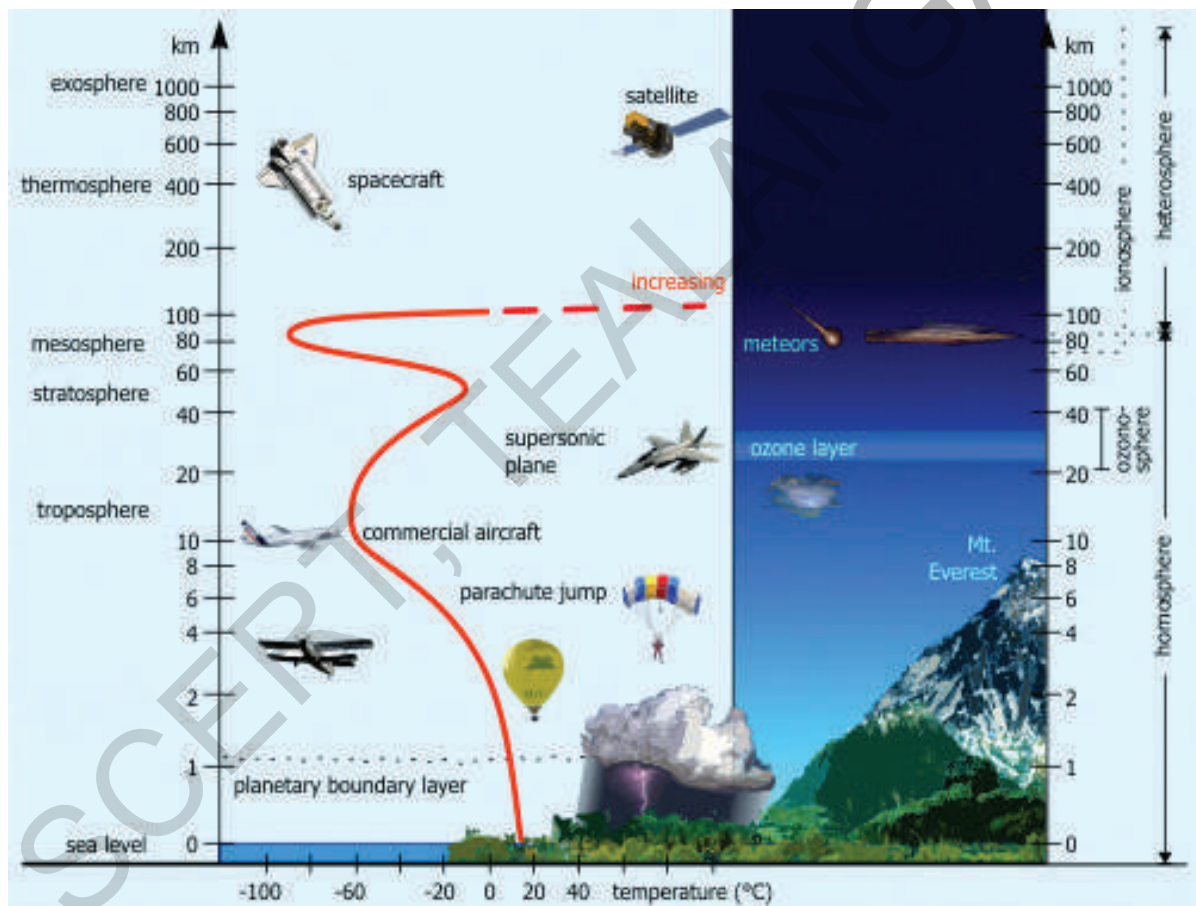


Fig. 4.2: Structure of the atmosphere

1. Troposphere: Troposphere is the lower most layer of the atmosphere. Its average height is 13 kms and extends roughly to a height of 8 kms near the poles and about 18 kms at the equator. Thickness of the troposphere is greatest at the equator because heat is transported to greater heights by strong convectional currents, greater sinking of air near the poles.

It contains about 75% of the total gaseous mass of the atmosphere and practically all the moisture and dust particles. The entire weather phenomenon happens in this sphere. The temperature in this layer decreases as we go higher which is known as Normal Lapse Rate. Condensation, evaporation, precipitation, rainfall, cyclones etc. occur in this layer.

2. Stratosphere: This layer extends up to a height of 50 kms. This layer is almost free from clouds and associated weather phenomenon, making conditions most ideal for flying jet aircrafts. One important feature of stratosphere is that it contains ozone layer. The temperature increases as there is increase in altitude.

3. Mesosphere: It extends up to a height of 80 kms. Meteorites burn up as they enter this layer from the space. Temperature starts decreasing with the increase in altitude.

4. Thermosphere: It extends up to 400 kms. In thermosphere, temperature rises rapidly with increase in height. It contains electrically charged particles known as ions. Radio waves transmitted from the earth are reflected back to the earth by these ions. It is also known as Ionosphere.

- In which layer is life present in the atmosphere?
- About which layer do we have very little knowledge?
- Which layer of the atmosphere is ideal for flying jet aircrafts? Why?

5. Exosphere: It is the upper most layer of the atmosphere. This is the highest layer and very little is known about it.

Pressure Belts and Planetary Winds

Air Pressure: The air around us is composed of gas molecules (very tiny particles). These molecules are constantly pushing each other or any object that comes their way. This push effect they exert together on any object is described as Air Pressure. Thus, air exerts pressure not only from the top but also from the bottom and all the sides of an object that it is exposed to air on those sides.

The pressure of air increases if there are more molecules present – This usually happens on the surface of the earth – as the earth pulls most of the air molecules to its surface due to its gravitational pull.

However, this changes when the air is heated up. When gas molecules are heated up (usually due to the heating of the Earth's surface), they get a lot of energy and start moving very fast. This initially would mean an increase in pressure as they will push the object more. However, the energised molecules start flying off higher and higher. Remember they have more energy now to defy the pull of the earth! When more molecules go to higher reaches of the atmosphere, the places near the earth will have less of them – this means less pushing around or less pressure.

That is why geographers say that when it gets hot, the air pressure becomes low and when it becomes cool, air pressure increases. In simpler terms: if one increases, the other decreases – this is called an inverse relationship.

When heated air rises, it starts losing the energy (in the form of heat) that it got from Earth's surface. When the energy decreases, the molecules slow down, become more sluggish, and get closer to each other – air becomes cooler and denser. Dense air starts falling back towards Earth's surface due to gravity. They don't have enough energy to fight against gravity any more! Wherever this cool air descends, the air pressure increases.

That is not all. When any part of the earth heats up and causes low pressure, it means that there is more vacant space and less molecules. Now, air from other parts where the pressure is higher moves towards this vacant place. It is not difficult for them for they have to only move along the earth's surface and thus need not go too much against gravity. That is why we say that wind flows from high pressure areas to low pressure areas.

Pressure Belts

The Earth's surface does not heat uniformly. Land heats up faster than sea. The land which is deep inland heats up faster than the land near the sea. So the air above the land gets heated more quickly. Water takes more time to heat. So the air above water gets heated more slowly.

However, when it comes to cooling, land cools faster and water cools down slower in comparison to land. So, the heating and cooling is happening at different rates in different places. Therefore, the pressures are also varying from place to place.

There's even more! You have learned about the relationship between latitudes and seasons. You learned that the tropical latitudes receive the most intense amount of solar radiation and are hotter than temperate or polar latitudes that receive less intense solar radiation. Hence, the tropics are hotter than the rest of the world. So, with temperature variation there is pressure variation around the world.

Just as water moves from a higher place to a lower place and heat moves from warmer objects to cooler objects, air moves from areas of higher pressure to areas of lower pressure. When air moves like that, we call it wind.

If it moves at a slow pace and we feel comfortable in it, we call it a breeze. If the wind comes in a short and fast burst, we call it gust. If it moves very fast and blows things around, we call it a storm. Along the Andhra Pradesh coast, we experience cyclones which are very high-speed winds.

Winds are constantly moving all over the world. At the equator, the high temperature heats up the atmosphere and the hot air rises, creating lower pressure at the Earth's surface around the equator. This low-pressure belt (it is like a belt

around the Earth!) is called equatorial low pressure belt or the Inter-Tropical Convergence Zone (shortened to 'ITCZ'). As this air rises, it cools and starts descending. But it cannot come back from the same path that it took when it went up. As it reaches the higher layers of the atmosphere, the air spreads away from the equatorial region towards northern and southern hemisphere. As it spreads, it also starts descending – it is cooler, denser, and so starts to sink back to Earth. Where it descends, we find the pressure is higher and this phenomenon is called sub tropical high pressure belt.

Having come down, as the air hits the Earth's surface, it splits into two parts - one part again rushes towards the equatorial lower pressure area. When they get there, they get heated again and rise. Thus, the equatorial cycling of wind continues.

The other part is pushed towards the next higher latitudes where the pressure is lower. To understand the process better let us call these winds "A." (Remember, "A" is not an official name for these winds, we are using it for convenience.)

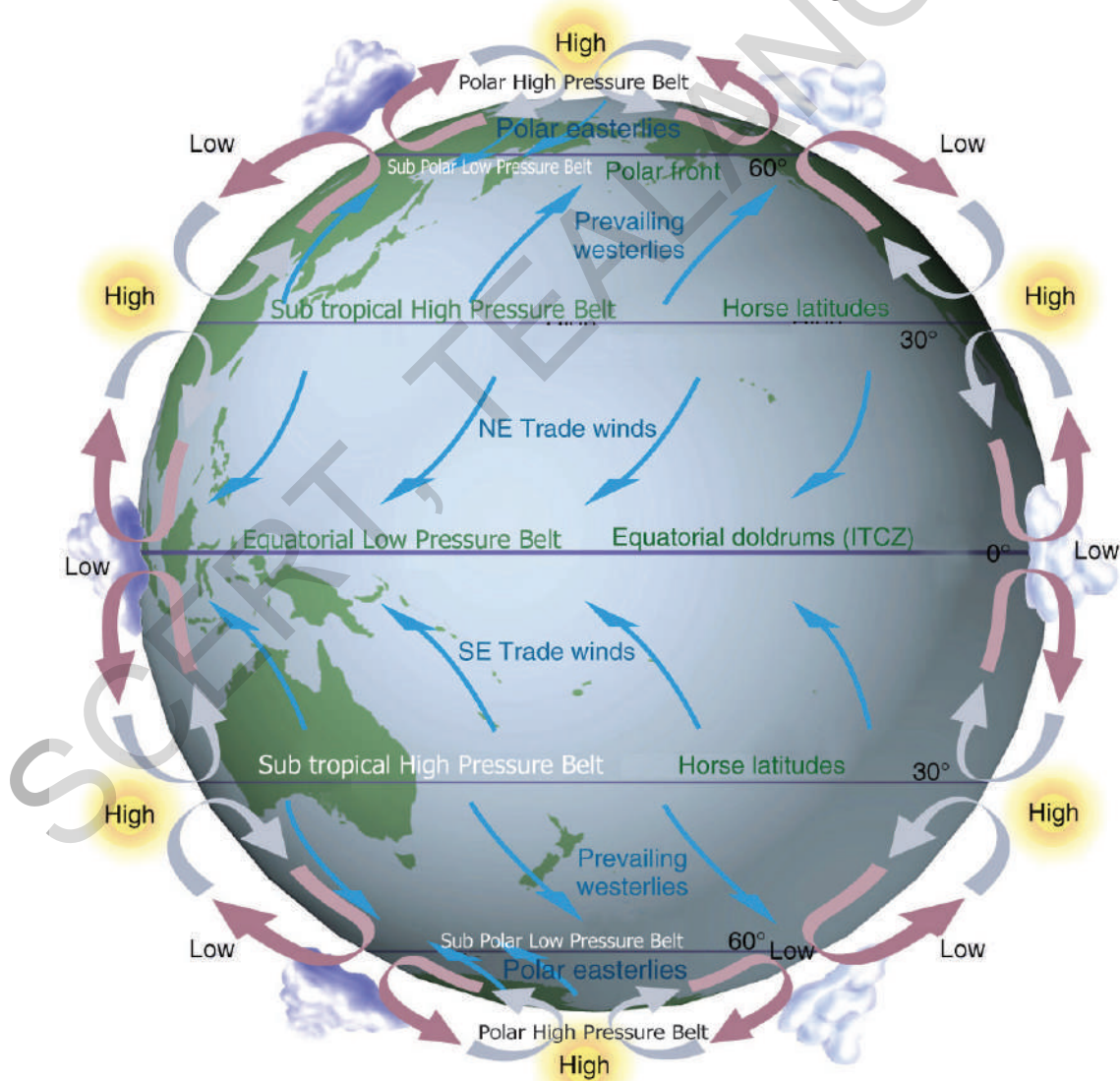


Fig. 4.3: Pressure Belts and Planetary winds

The air in the areas near the north pole and south pole is so cold that the air there is at higher pressure (polar high pressure belt) than in the area around the latitudes, along the Arctic Circle (in the north) and the Antarctic Circle (in the south) (sub polar low pressure belt). So, the polar winds rush towards these lower pressure areas. There, they meet the “A” winds.

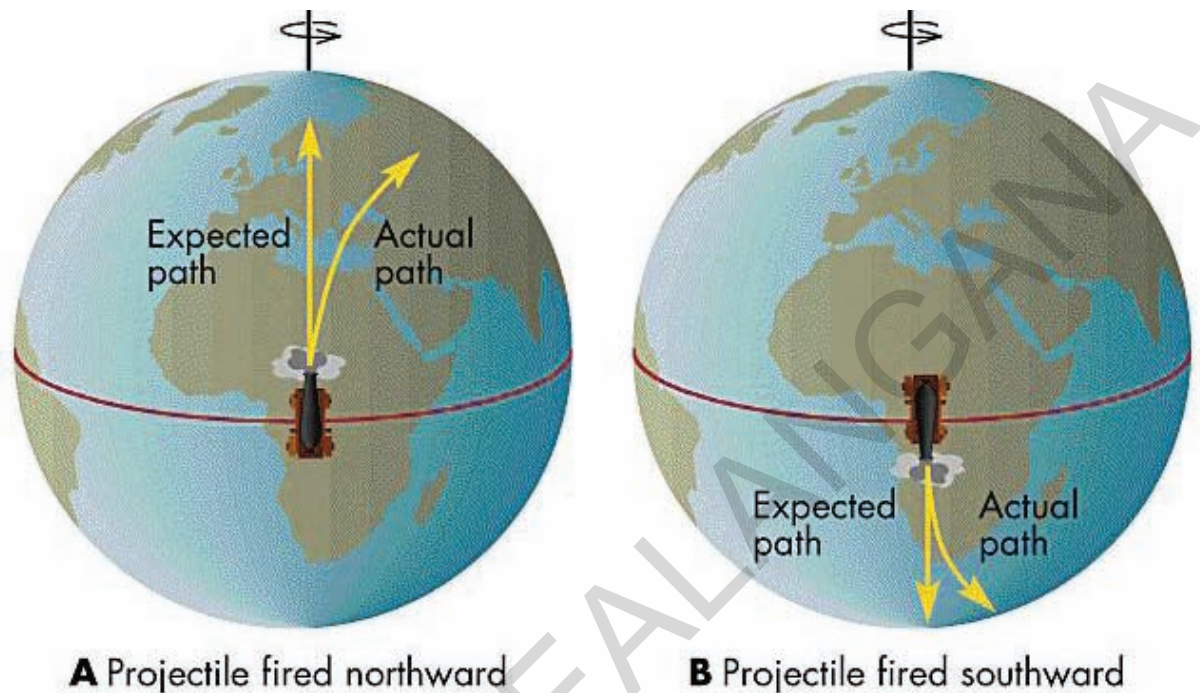


Fig. 4.4: Diagram showing Coriolis effect

Normally we would have expected the winds to move in a straight line from north to south, or south to north from the temperate zone to the tropic zone. (remember that temperate zones are there both to the south and north of the Equator.) But actually the winds move slightly to the right in the northern hemisphere and to the left in the southern hemisphere. This is because of the impact of Earth’s rotation on its own axis. This effect is called ‘Coriolis effect’, having ‘0’ effect near the equator and maximum effect near the poles.

Thus, the atmosphere is always surrounding the earth on all sides in circulation. The winds play a very important role in the weather and climate patterns around the world. They have also played a very important role in history. For example, Vasco da Gama found the sea route to India using winds to power his ships. He was able to transport and trade large quantities of pepper, cinnamon etc. to Portugal because of this. In this way, these winds also were crucial to the establishment of the Portuguese rule over Goa.

Remember, there are also many small local variations in the wind patterns.

Classification of Winds

Depending upon the speed of the winds, their features, their directions and the way they occur, winds are classified into three types :

- A. Planetary winds - Present on the planet as a whole through out the year.
- B. Seasonal winds - Restricted to regions or seasonal in character.
- C. Local winds - Local in character.

A. Planetary Winds: The winds that blow continuously and regularly above the world pressure belts are known as planetary winds. These are of 3 types -Trade winds, Westerlies and Polar winds; Trade winds in the tropics, westerlies in the temperate belt, polar winds in the polar belt. Trade winds are Easterly in direction i.e moving from East to West. They are North East trades in Northern hemisphere and South East trades in Southern hemisphere. Westerlies, on the other hand, blow

- Observe the figure 4.3 and describe between which pressure belts are the Westerlies, trade winds and polar Easterlies are blowing.

from West to East, that's why they are called westerlies. They are South West bound in Northern hemisphere and North West bound in Southern hemisphere. Polar regions also experience Easterlies.

Effects of Planetary Winds: You would have noted that the pressure and wind systems are actually a result of the impact of Lithosphere and Hydrosphere on Atmosphere. These winds play a crucial role in transporting heat and moisture across the world. That is why no part of the world gets too cold or too hot for life to survive. Had there been no atmosphere (as on the Moon) it would have got intolerably hot during day or in the tropics and intolerably cold at night or in the Polar regions. However, these winds do not distribute heat or moisture uniformly – which is why some parts of the earth are quite hot, some parts cooler and some parts with high rainfall and some which are deserts.

B. Seasonal Winds: The rainfall that happens in India is mainly due to seasonal winds. All factors in the country are related to monsoons. Monsoon is derived from Arabic word *Mausam*.

Existence of monsoon is due to differential cooling of land and sea. A low pressure area develops over north-western India, while south-east trades cross the equator. As a result of coriolis effect, it becomes south west monsoon over peninsular India and adjacent countries. In winter, reversal of pressure belts i.e north-east trade winds cross the equator. As a result of coriolis effect, it becomes north-west monsoon over the north, north-east Australia.

C. Local Winds: The local winds blow due to local variation in the temperature and pressure, and influence a very small area. Hot local winds raise the temperature of the area. Cold local winds sometimes bring the temperature of the affected area below the freezing points. These local winds blow in the lower layer of the

troposphere. The mountain and the valley breezes, as well as sea and land breezes are also one class of local winds. These winds respond to local pressure gradients (pressure changes) set up by heating or cooling of the lower atmosphere.

Hot Local Winds

1. Chinook : These winds move down the Rocky mountains in the USA-Canada and part of North America. Many people believe that the word Chinook means “snow eater”.

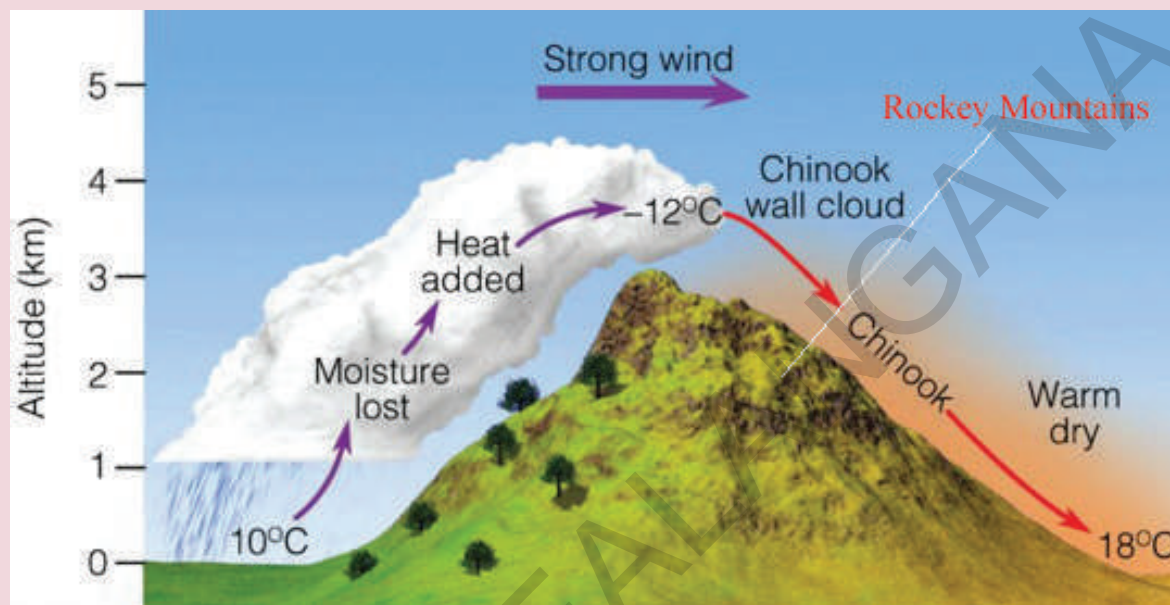


Fig. 4.5: Chinook

Actually, it is the name of a native American tribe called the Chinook, people who lived in the region where these winds are observed. It keeps the grass lands clear of snow during most of the winter. Similar winds that blow in Europe are called Foehn. They blow along the northern slope of the Alps. This melts the snow, makes the weather pleasant and helps in early ripening of the grapes.

2. Loo: These are hot and dry winds blowing in the plains of northern India from the west to east in the months of May and June. It may cause sunstroke to people because of high temperatures.

Simmon in Arabian desert, Yoma in Japan, Norwester in New Zealand are some of the other examples of hot winds.

Cold Local Winds

1. Mistral: The most famous is the mistral that blows from the Alps over France towards the Mediterranean Sea. It is channeled through the Rhone Valley. It is a very cold and dry wind.

2. Puna: This is the cold local wind in the Andes region.

3. Pampero: These are the cold polar winds blowing very fast in the Pampas region of South America.

Weather and Climate

Perhaps you have heard of a cricket match being postponed due to ‘bad’ weather (rain). You may have had to postpone your own games due to rain or excessive heat saying, “The weather is not suitable.” You may have also heard people say, “This year, the monsoons are on time.” The prices of most fruits go up when they are ‘not in season’ but come down when they are ‘in season.’ You may also have heard things like, “The climate in north India is not suitable for me!”

These two words, weather and climate are very important concepts in geography. They shape our lives in many ways. And many people confuse the terms and say ‘weather’ when they mean ‘climate’ and vice versa. You will know the difference between the two by the end of this section.

This mixture of gases and particulates that we call the ‘atmosphere’ is not static. It is very dynamic; it moves up and down and horizontally in all directions. As it does so, its characteristics change – it may get warmer or cooler, wet or drier etc. When we describe the condition of the atmosphere for small period of time (usually about 10 days at most), we are talking about weather. Weather can change daily even within a day!

Climate is description of the average atmospheric conditions for specific areas over a long period of time. Climatic descriptions are based on decades of atmospheric data and finding the averages of these data. Climate descriptions tell us what conditions are going to prevail at a given time of the year, but not on specific days.

How do we describe the atmosphere? We measure (a) temperature, (b) pressure, (c) wind, (d) humidity, and (e) precipitation. These are called the elements of weather. We use these to describe climate also, as you will see soon; so these are also elements of climate. You have just learned about pressure and winds above. Let us take a look at the other elements now.

Temperature: In class VIII, you learnt about the temperature of the atmosphere. We had compared the temperature patterns for Panaji, Shimla, and Delhi. You had also learned that Shimla, being at a higher altitude than Panaji and Delhi, had cooler temperature. On Earth’s surface, as you go higher in altitude, the temperatures decreases.

Humidity and Precipitation

In this section, we will understand how water cycle works in the atmosphere. You can see how hydrosphere and atmosphere interact with each other. Water vapour is a very important component in the atmosphere. In most places, the amount of water vapour in the atmosphere varies over time and as part of changing weather patterns. In many places, in winter, it is dry and cold. In such places, our skin may

feel itchy, dry, and it may crack. You will probably have experienced cracked lips for which you may have used lip balm, vaseline, or oil.

Combined with high temperature, it is the water vapour that makes you feel sultry and sweaty. When this happens, we say it is 'very humid' or 'the humidity is high.' But not all places are similar in this respect. Some places feel very dry (example: deserts). The moisture (water vapour) in the atmosphere is derived from water bodies through evaporation and from plants through transpiration. Humidity is the amount of water vapour in the air. In high humidity, our sweat doesn't cool us because it cannot evaporate. In low humidity, we also feel more thirsty.

Do You Know?

Hygrometer is an Instrument that measures the water vapour content (Humidity) of the air.

Remember those particulates you learned about earlier? Recall how they help in rainfall.

We express humidity not directly, but using the concept of relative humidity. Relative humidity is the ratio between two things:

1. The maximum water vapour that the air can hold at a given temperature and pressure, and
2. The actual amount of water vapour it holds at any given time.

For example, at 20°C temperature air can contain 80 gms of water vapour per cubic meter. If the actual water vapour present is only 40 gms, the relative humidity is 50%. Relative humidity increases with the decrease of temperature or addition of water vapour. Relative humidity decreases with the increase of temperatures and decrease of water vapour. The critical temperature at which saturation level is reached is called dew point. Have you seen dew drops? Where are they found? If the atmosphere has 100% relative humidity, it is known as saturation level.

Condensation

Condensation is the opposite of evaporation, as it involves conversion of water vapour into droplets of water or crystals of ice. When the relative humidity exceeds 100%, the excess of water vapour present in the atmosphere gets condensed as minute droplets of water. For example, when air at a temperature of 20°C contains 49 gms of water vapour per cubic meter and gets cooled to 10°C it can hold only 40 gms of water vapour at saturation level. The excess of 9 gms of water vapour gets condensed. Condensation can take place only when minute solid particles are present in the atmosphere. Condensation can also take place on a contact surface. For example, have you observed what happens when cold water is filled in a glass? Condensation happens on the outer side of the glass as the moisture in the air

comes in contact with a cold surface. When water vapour condenses on surfaces such as plants, dew drop form.

Dust particles also attract water molecules from the water vapour in the atmosphere. This causes condensation (condensation means becoming denser) of the vapour into droplets. Millions and millions of these droplets appear together as different kinds of clouds. If the clouds are cold enough, they may also contain ice crystals. Clouds are classified into different types on the basis of their forms and heights at which they are found. For example, Cirrus clouds (at higher level), cumulus clouds (at middle level), stratus (at lower level), nimbus (rain bearing, and vertical clouds).

With condensation, the droplets get heavy and fall on Earth as precipitation (from the Latin word praecipitatio meaning to fall headlong, to plummet) – in the form of rain, snow, hail, etc. If these droplets condense very close to Earth's surface, the droplets are lighter and we get fog.

Forms of Precipitation

Rainfall is the most common form of precipitation. When condensation takes place at temperatures below freezing point, water vapour condenses directly into ice crystals. These may fall on the earth as a powdery mass or flakes of snow. This form of precipitation is called snowfall. Snowfall is quite common in middle and high latitudes, and mountain regions.

When rain falls through a cold layer of air near the earth's surface, rain drops get frozen into ice and fall down. This form of precipitation is called sleet.

When there are strong vertical currents in the atmosphere, condensation takes place at high altitudes at low temperature. Ice crystals grow in size gradually but do not fall owing to ascending currents. Eventually, the ice crystals grow to a large size of a few centimeters in diameter and fall down as solid masses. This form of precipitation is called hail stone. Hail stone causes damage to crops and buildings.

Types of Rainfall

On the basis of their origin, rainfall may be classified into three main types:

- 1) Convictional Rainfall
- 2) Orographic Rainfall
- 3) Cyclonic Rainfall

Convective Rainfall: This type of rainfall takes place when moist air over the heated ground becomes warmer than the surrounding air and is forced to rise. This forced air then expands, cools and condenses to form water. Convective rainfall is common in low latitudes and on summer days in interior part of the continents, and usually come in the form of short heavy showers just after the hottest part of the day, sometimes accompanied by thunder and lightening.

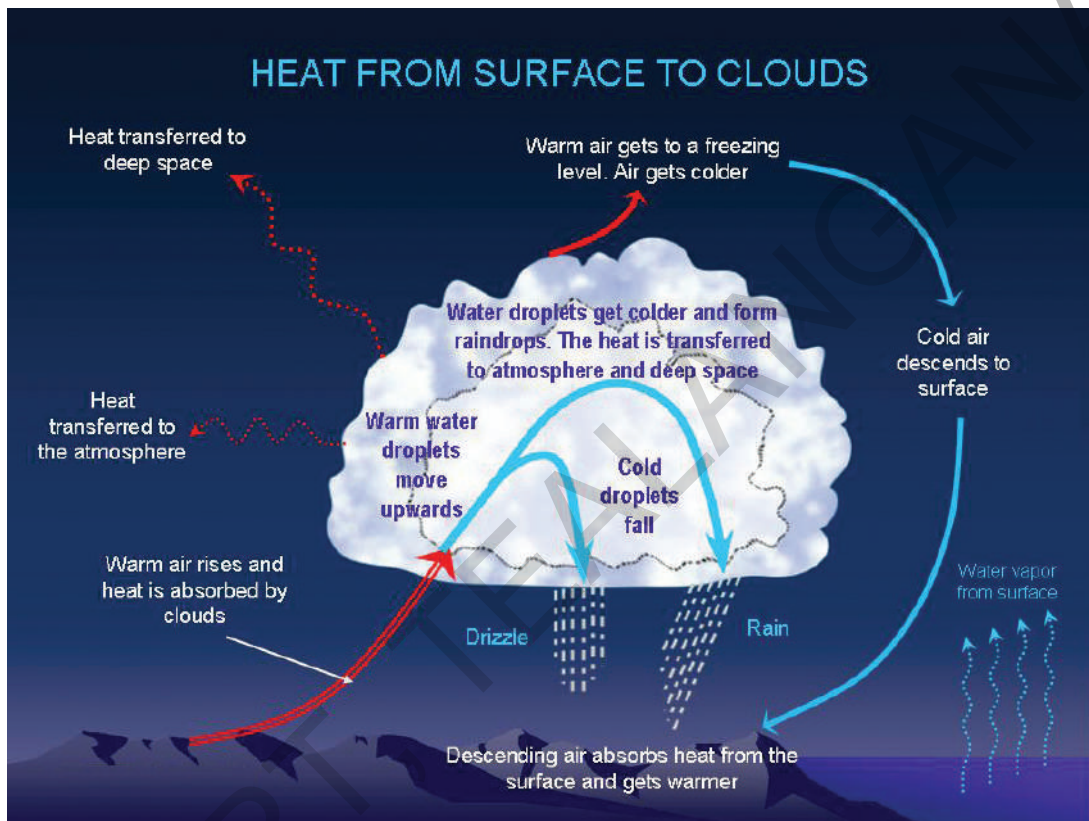


Fig. 4.6: Convective rainfall

Orographic Rainfall: ‘Orographic’ rainfall is also sometimes called ‘orogenic’ rainfall. We get this term from the Greek word oros, meaning ‘mountain.’ This occurs when moist wind is forced to rise over a mountain or other elevation in its path. Thus the windward sides of many mountain ranges receive heavy precipitation; whereas the leeward sides along which the air moves down receives less rain fall. Such situation occurs widely along the western coast of India.

The moist air from the Arabian Sea is forced by the Western Ghats to rise up resulting in expansion, cooling, and rainfall. On the other side of the Western Ghats, the descending wind is devoid of moisture and hence, does not give the rain in the central part of Deccan Plateau. Hence, this region is dry and known as rain-shadow region.

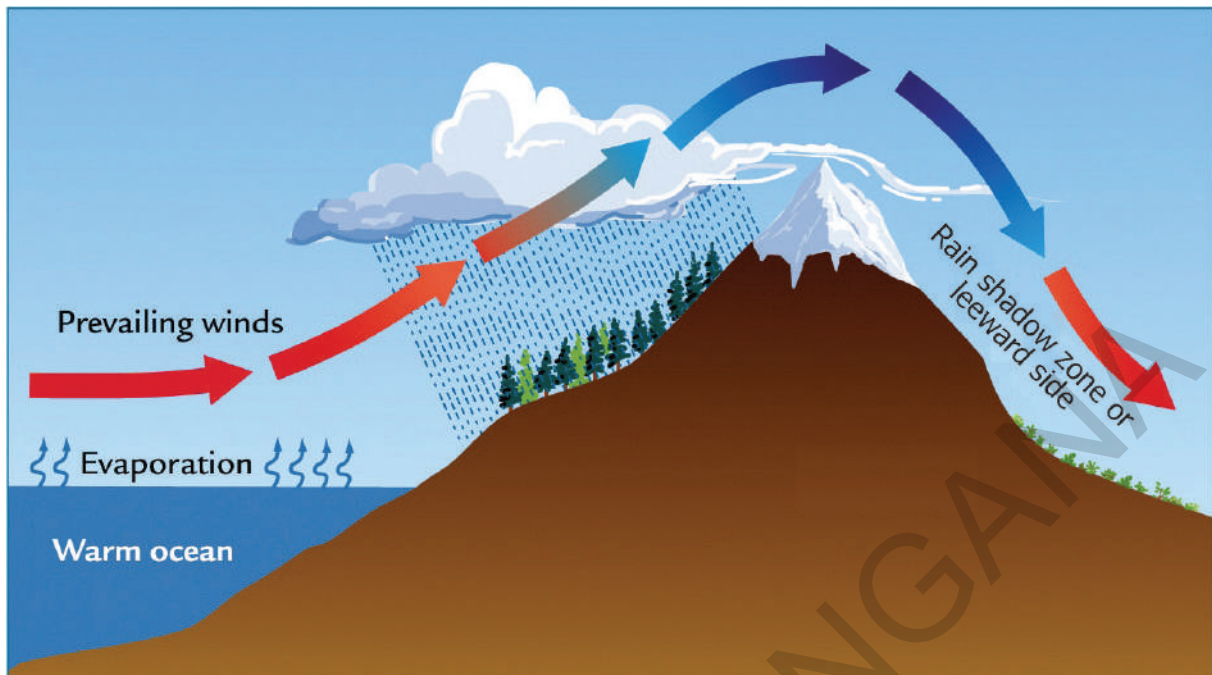


Fig. 4.7: Orographic Rainfall

Cyclonic rainfall: This type of rainfall is associated with the passage of a cyclone or a depression. There are two types of cyclones – the tropical cyclones and the temperate cyclones. The term cyclone is derived from the Greek word ‘kyklon’ meaning ‘revolving.’

Tropical cyclones are warm-core vortex circulation of tropical origin with a small diameter (some hundreds of kilometers) often of an approximately circular shape, minimum surface pressure (less than 900 mb) with sustained maximum winds of at least 33m/sec. They are developed on the warm sea surface (26°C to



27°C) and move towards the land. The winds are lifted up by the movement of cyclones. The uplifted air gives heavy rainfall. Temperate cyclones occur when the cold, dry, denser air masses converge with warm, wet, lighter air masses. The warmer air, being lighter, is lifted up by the denser cold air and results in rainfall.

Fig. 4.8: Tropical Cyclone

Rainfall across the globe:

1. Between the latitudes 10° and 30° N and S of the equator, due to the trade winds, rainfall is heavier on the eastern coasts, and decreases towards the west.
2. Between the latitudes 40° and 60° N and S of the equator due to the westerlies, the rainfall is heavy on the west coast, and decreases towards the East.
3. Low pressure areas, especially around the equator receive high rainfall than high pressure areas.
4. The rainfall is higher over the oceans than on the continent.

Keywords

1. Convectional currents
2. Inter Tropical Convergence Zone
3. Coriolis effect

Improve your learning

1. Explain the composition of the atmosphere.
2. Discuss the structure of the atmosphere along with a diagram.
3. Differentiate weather and climate.
4. Compare and contrast convectional and orographic rainfall.
5. Describe the distribution of rainfall across the world.
6. How do climatic changes influence human life?
7. Explain relative humidity.
8. Why does the amount of water vapour decrease rapidly with altitude?
9. What is coriolis effect? Explain its effects.
10. Identify the location of the given local winds in the world map?
 - a) Chinook
 - b) Loo
 - c) Simoon
 - d) Yoma
 - e) Norwester
 - f) Mistral
 - g) Puna
 - h) Pampero
11. Read the paragraph under the title 'Effects of Planetary Winds' on page 43 and comment on it.



Project

1. Collect weather information covered by media such as newspapers, TV, Radio etc. to understand weather phenomenon.
2. Collect the newspapers from July to December and note down the news related to extreme rainfall in different parts of country.



Biosphere

The Earth is a unique planet, in that it has life thriving on it. It is inhabited by countless forms of life from microscopic bacteria to great banyan trees and animals like elephants, tigers, blue whales and, of course, human beings. The fact that the earth has a combination of land, air and water and a moderate temperature due to a moderate distance from the Sun, has made life possible on it. We saw in an earlier chapter that life thrives only in the intersection of the three spheres – lithosphere, atmosphere and hydrosphere. According to many geographers, life itself constitutes a separate sphere called ‘biosphere’.

All forms of life have an integral connection with the land, air, water and sunshine around them. They draw their sustenance from them and, in turn, affect them in significant ways.

Various forms of life are not only related to the three spheres around them, but also to each other. They are part of a complex ‘food chain’ – that is, one kind of life

- Can you tell how are plants dependent upon air and water and how they affect the two in return?
- In what ways are insects like mosquitoes and butterflies dependent upon rocks or soil and water? How do they affect them in return?

becomes food for another kind. Many of the life forms are also symbiotic, that is, they live by exchanging essential substances with each other. Let us consider some examples:

The primary food producers are plants which produce food with the help of sunlight. The plants themselves draw their vital nutrients from the soil, especially from organic compounds formed due to decay of other plants and animals. They also depend upon nitrogen stored in the soil by bacteria. The food produced by the plants is eaten by plant eating animals, usually called ‘herbivores’, like deer, cattle, goats, elephants etc. Other animals like dogs, cats, fishes, birds, tigers etc. eat the flesh of herbivorous animals and, in this way, are indirectly dependent upon plants. Bacteria and fungi help in decomposition of dead trees and animals and breaking them down into organic compounds which the plants draw upon for their growth. Thus, the cycle of life goes on.

Any disturbance in this cycle can create what is called an ‘ecological crisis’. For example, if a particular species which feeds upon a particular kind of plant is exterminated, it would result in unchecked growth of that plant. It may grow so

much that it may intrude into the area where other plants grow and disturb their growth.

Another example of disturbance is mixing of poisonous substances into air, water or soil. Many industries use chemicals and metals which flow into the streams and rivers. This leads to an increase in the level of such chemicals in the water. These chemicals and metals like mercury are consumed by microorganisms in water, and in turn, become the food of a large number of fishes. When human beings consume these fishes, they too absorb some amount of mercury which is detrimental to their health.

Let us look at another example. Vultures feed upon dead animals like cattle. Vultures eating dead carcass used to be a common sight in villages and towns some twenty years ago. However, people started noticing that vultures have virtually disappeared and are sighted very rarely. Investigations suggest that farmers use a particular chemical called Diclofenac to treat cattle. When the cattle die, their flesh retains this chemical. When their flesh is consumed by vultures, diclofenac leads to kidney failure in them and they die within a week or so. In this way, vultures have come very close to extinction.

Since all living and non-living things on the earth are, in one way or the other, connected to each other, changes affecting one, in due time affect all others too.

Natural Vegetation

Natural vegetation is generally classified into three broad categories: forests in areas with sufficient rainfall and sunshine; grasslands in regions with moderate rains; and shrubs in dry regions. In very cold regions, we have tundra vegetation consisting of small shrubs, moss and lichens. Let us study some of these in greater detail.

As you may remember, there are different kinds of forests, depending upon the climate of the place.

Tropical Evergreen Forests

These forests are also called tropical rainforests. These thick forests are found in the regions near the equator and close to the tropics. These regions are hot and receive heavy rainfall throughout the year. As there is no particular dry season, the trees do not shed their leaves altogether. This is the reason they are called evergreen. The thick canopies of the closely spaced trees do not allow the sunlight to penetrate inside



Fig. 5.1: Tropical Evergreen Forests

Fig. 5.2: Tropical Deciduous Forests



the forest even in the day time. Hard wood trees like rosewood, ebony, mahogany are common here.

Tropical Deciduous Forests

Tropical deciduous are the monsoon forests found in large parts of India, northern Australia and in central America (Fig. 5.2). These regions experience seasonal changes. Trees shed their leaves in the dry season to conserve water. The hard wood

trees found in these forests are sal, teak, neem and shisham. Hard wood trees are extremely useful for making furniture, transport and constructional materials. Tigers, lions, elephants, langours and monkeys are the animals commonly found in these regions.

Temperate Evergreen Forests

The temperate evergreen forests are located in the mid latitudinal coastal region (Fig. 5.3). They are commonly found along the eastern margin of the continents, for example, in South East USA, South China and in South East Brazil. They comprise of both hard and soft wood trees like oak, pine, eucalyptus etc.



Fig. 5.3: Temperate Evergreen Forests

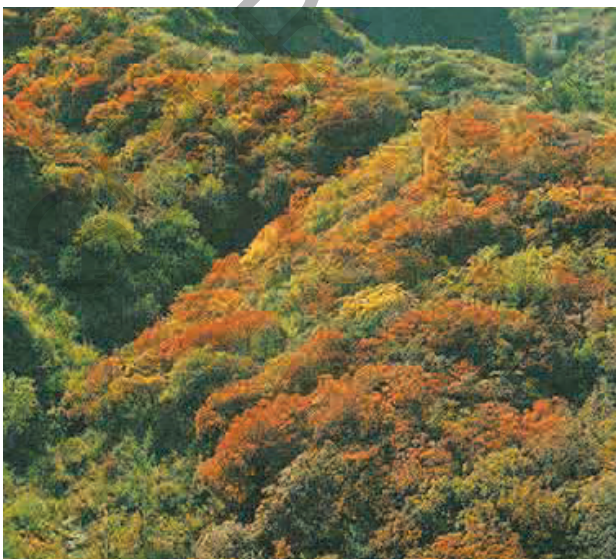


Fig. 5.4: Temperate deciduous forests

Temperate Deciduous Forests

As we go towards higher latitudes, there are more temperate deciduous forests (Fig. 5.4). These are found in the North Eastern part of USA, China, New Zealand, Chile as well as in the coastal regions of Western Europe. They shed their leaves in the dry season. The common trees are oak, ash, beech, birch etc. Deer, foxes, wolves are the commonly found animals. Birds like pheasants, monals are also found here.

Mediterranean Vegetation

You have learnt that most of the east and north east margins of the continents are covered by temperate evergreen and deciduous trees. The west and south west margins of the continents are different. They have Mediterranean vegetation. Mediterranean trees adapt themselves to dry summers with the help of their thick barks and wax coated leaves which help them reduce transpiration. These are mostly found in the areas



Fig. 5.5: Mediterranean vegetation

around the Mediterranean sea in Europe, Africa and Asia, hence the name. This kind of vegetation is also found outside the actual Mediterranean region in California in the USA, south west Africa, south western and South America and South west Australia. These regions are marked by hot dry summers and wet winters. Citrus fruits such as oranges, figs, olives and grapes are commonly cultivated here because people have removed the natural vegetation in order to take up agriculture. There isn't much wildlife here.

Coniferous Forests

In the higher latitudes ($50^{\circ} - 70^{\circ}$) of the Northern hemisphere, the spectacular Coniferous forests are found (Fig.5.6). These are also called as Taiga. These forests are also seen in the higher altitudes. These trees are found in the Himalayas in abundance. They are tall, softwood, evergreen trees. These woods are very useful for making pulp, which is used for manufacturing paper and newsprint. Match boxes and packing boxes are also made from softwood. Chir, pine, cedar are the important trees in these forests. Silver fox, mink, polar bear are the animals commonly found here.



Fig. 5.6: Coniferous forests

- Look around in your surroundings and find out the articles made of hard wood and soft wood.
- Find out and learn the names of a few trees found in your locality.



Fig. 5.7: Tropical grasslands



Fig. 5.8: Temperate grasslands

- Identify the desert regions in the world map.

reach the polar region, you will find the place extremely cold. The growth of natural vegetation is very limited here. Only mosses, lichens and very small shrubs are found here. These grow during the very short summer. This is called Tundra type of vegetation. This vegetation is found in the polar areas of Europe, Asia and North America. The animals have a thick fur and thick skin to protect themselves from the cold climatic conditions. Seal, walrus, musk-oxen, Arctic owl, Polar bear and snow foxes are some of the animals found here.

Grasslands

Tropical grasslands: These grass lands grow on either side of the equator and extend to the tropics (Fig. 5.7). This vegetation grows in areas of moderate to low rainfall. The grasses grow very tall, about 3 to 4 metres in height, for example, Savannah grasslands of Africa. Elephants, zebras, giraffes, deer, leopards are common in tropical grasslands.

Temperate grasslands: These are found in the mid-latitudinal zones and in the interior part of the continents (Fig. 5.8). Usually, grass here is short and nutritious. Wild buffaloes, bisons, antilopes are common in the temperate region. These are known as Steppes in Eurasia.

Thorny bushes: These are found in the dry desert like regions. Tropical deserts are located on the western margins of the continents. The vegetation cover is scarce here because of scanty rain and scorching heat.

Tundra Vegetation: If you

Human Society and Environment

Down the ages, human societies have been interacting with the environment and in this process, changing it. Hunters and gatherers used stone tools and tools made of wood etc. to hunt animals and gather tubers and fruits. They learnt to use fire – by lighting sticks and grass – the first source of energy to be used. Thus began the tale of human endeavour to alter the environment to satisfy their needs. Human beings also began investigating into the nature of the environment around them in order to be able to change and use them for their purposes. Thus, the building of knowledge of the environment is an essential part of human beings' interaction with the natural world.

When human beings began to practise agriculture and animal husbandry, they began to change their environment even more. The building of cities and the use of metals like bronze and iron further changed human interaction with the environment. Before long, people began building tanks to store water, canals to divert water to fields, and even dams across streams and rivers.

People also built roads to connect distant places and sailed in ships and boats across seas and oceans. In this way, human societies established themselves not only on every continent (except the Antarctic) but over the seas and oceans too.

Gradually, human population grew so much so that human beings became the dominant species on earth. It is estimated that during BCE 10,000 i.e., the time when cultivation started, the total population of human beings worldwide was about 40 lakhs. It reached to 50 crores in 1750; 100 crores in 1800; 250 crores during 1950 and to 700 crores during 2010. It is estimated to reach 1000 crores by 2100. This increase in population creates great pressure on the earth as well as its resources. This means that almost the entire earth would need to be reshaped to suit the needs of humans.

This process of altering the surface of the earth received a great push with the industrial revolution and the process of colonisation. Industrial production needs raw materials on an unprecedented scale and industrial countries began to search for diverse kinds of raw material and sources of energy all over the globe. They 'explored' the world and made inventories of all the possible resources. They dug deep

- Can you imagine how human beings would have impacted the land, water, plants and animals around them when they began agriculture and animal herding?
- What sources of energy would they have used and how would they have obtained them?
- Can you think of the kinds of changes would building of cities have on the land and water around them?
- In what way do you think would this have affected the landscape and water cycle?

wells and tried to find out what lay underneath and also explored the space high above in the atmosphere. Soon, systematic mining, cutting of forests, building of factories and fields and roads took place all over the earth. Nations began to wage wars with each other to gain control over these resources.

Such intense human industrial activity has profound impact on the air, water and the land around us. Let us try to think of some of these.

Industries – Pollutants and Effluents

Modern industries and transport systems use immense amount of energy which is derived basically from coal and petroleum (which are called fossil fuels as they are the remains of forests buried underground lakhs of years ago). The burning of fossil fuels releases large quantities of carbon dioxide and other chemical gases like nitrogen oxides, sulphur dioxide, volatile organic compounds and heavy metals. They also release sulphuric, carbonic, and nitric acids, which cause what are called 'acid rains'. Acid rains are caused by the mingling of acidic particles of the atmosphere with the rain by increasing the acid content of rain water.

KYOTO PROTOCOL

A conference was held by United Nations Organization in the city of Kyoto in Japan in December 1997 to protect mother earth from global warming. The countries that attended realised the effect of Green House Gases and signed a declaration called Kyoto Protocol. The main aim of this declaration is to bring down the release of Green House Gases to less than 5.2%. According to this declaration, this aim should have been achieved between 2008-2012.

In addition to burning of fossil fuels, modern industries release enormous amounts of waste materials in the form of solid, liquid and gaseous waste contaminating air, water (both surface water like rivers and underground water of wells) and soil.

The cumulative impact of such pollution is gradual poisoning of our environment. One important impact is the change in worldwide climate also known as 'global warming'. We will read about this in detail in Class IX biological science book in Chapter X.

Depletion of Resources

Industrialisation, rapid growth of population and urbanisation have all led to unprecedented exploitation of natural resources like minerals, forests, soil, water, air etc. as well as the sources of energy (coal, petroleum etc.) stored in the earth for billions of years. This has resulted in rapid deforestation and decline of reserves of minerals, oil and groundwater. Many scientists have argued that the present way of life is not 'sustainable' for life. If we use such large quantities of natural resources, nothing will be left for our children and grand children.

All the living beings on the earth depend on the environment and have to live according to the environment. But, for their enjoyment and development, human beings are destroying nature. The commercial activities carried on by human beings

are affecting every life and every matter on the earth. If there continue like this, it is dangerous not only to animals but also to human beings themselves.

Keywords

1. Food chain
2. Hard wood trees
3. Acid rains
4. Ecological crisis
5. Tundra

Improve your learning

1. Life itself constitutes a separate sphere called 'Biosphere'. Explain.
2. Why is ecological crisis occurred in modern times? What are its effects?
3. Write about the different kinds of forests and climatic conditions of their existence?
4. How can we protect natural resources?
5. Read the chapter and fill up the table

S. No.	Type of forest	Spread across the countries	Trees grown	Animals

6. Locate the following countries in the world map.
a) New Zealand b) Brazil c) Australia d) North America e) China f) India
7. Read the paragraph under the title 'In addition to and soil' on page 57 and comment on it.

Discussion: Collect information with regard to the animals/birds extinction. Fill up this table and discuss in classroom.

Sl. No.	Name of the animal/bird	Extinct	Being Extinct	Reasons For Extinction	Result	Preventive measures/our responsibility

Project

Visit any nearby industrial establishment and observe the different kinds of smoke, liquid and solid wastes come out of the compound. Find out from the residents of that locality about their impact on plants and animals. Based on the information collected, prepare a report and present it in the class.

Do You Know?

1. Approximately 13-15 tonnes of effluents and sewage water reach Kolleru lake daily from its nearby towns and villages.
2. One study found that the radiation released by cell phone towers affects the life of honey bees. This leads not only to scarcity of honey but also affects pollination, bio diversity and agricultural products.





Types of Farming

Agriculture is an age-old economic activity in our country. Over the years, cultivation methods have changed significantly depending upon the characteristics of physical environment, technological know-how and socio-cultural practices. At present the following farming systems are practised in different parts of India.

Subsistence Farming - This type of farming is done in two forms. They are : Simple Subsistence Farming and Intensive Subsistence Farming.

1. Simple Subsistence Farming: Agriculture is practised on small patches of land with the help of primitive tools like hoe, dao and digging sticks through family/community labour.



Fig. 6.1: Preparation of land for agriculture.

- Name some of the states of India where “slash and burn” farming is practised?

This type of farming depends upon monsoon, natural fertility of the soil and suitability of other environmental conditions to the crops grown. It is a ‘slash and burn’ method of agriculture (Shifting agriculture). You have read about it in the previous classes.

2. Intensive Subsistence Farming: It is practised in areas with high population density on land. It is labour intensive farming, where high doses of biochemical inputs and irrigation are used for obtaining higher production.

Commercial Farming: The main characteristic of this type of farming is the use of higher doses of modern inputs, for example High Yielding Variety (HYV) seeds, chemical fertilisers, insecticides and pesticides in order to obtain higher productivity. The degree of commercialisation of agriculture varies from

one region to another. For example, rice is a commercial crop in Haryana and Punjab, but in Odisha, it is a subsistence crop. Plantation is also a type of commercial farming. In this type of farming, a single crop is grown on a large area. In India, tea, coffee, rubber, sugarcane, banana, etc. are important plantation crops.

- Give some more examples of crops which may be commercial in one region and may provide subsistence in another region?

Cropping Seasons

Agricultural crops depend on seasons and natural resources such as soil, water and sunshine for cultivation. Temperature and humidity conditions are important. Some crops can be cultivated only in specific seasons regardless of the availability of water and other inputs. Therefore, in any region, different crops are grown in different seasons.

India has three cropping seasons – *rabi*, *kharif* and *zaid*.

Rabi crops are sown in winter from October to December and harvested in summer from April to June.

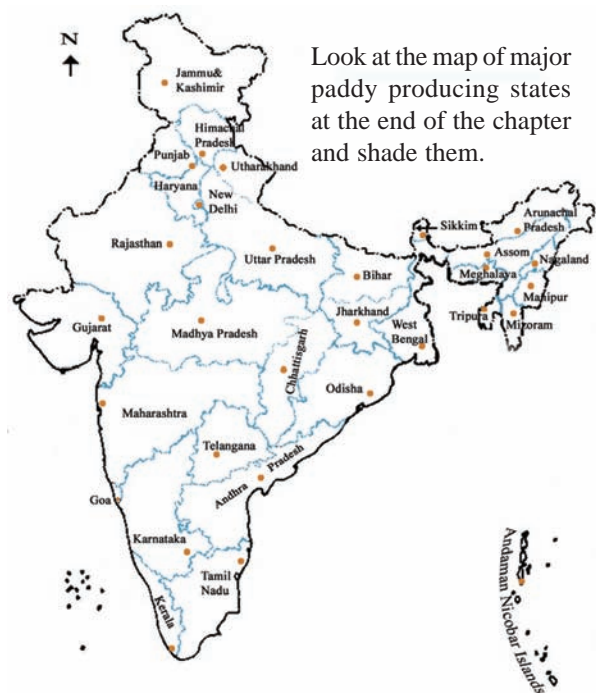
Some of the important rabi crops are wheat, barley, peas, gram and mustard. Availability of precipitation during winter months due to the western temperate cyclones helps in the success of these crops. However, the success of the green revolution in Punjab, Haryana, western Uttar Pradesh and parts of Rajasthan has also been an important factor in the growth of the above mentioned rabi crops.

Kharif crops are grown with the onset of monsoon in different parts of the country and these are harvested in September-October. Important crops grown during this season are paddy, maize, jowar, bajra, red gram, green gram, black gram, urad, cotton, jute, groundnut and soyabean.

In between the rabi and the kharif seasons, there is a short season during the summer months known as the Zaid season. Some of the crops produced during ‘zaid’ are watermelon, muskmelon, cucumber, vegetables and fodder crops.

Major Crops

A variety of food and non food crops are grown in different parts of the country depending upon the variations in soil, climate and cultivation practices. Major crops grown in India are paddy, wheat, millets, pulses, tea, coffee, sugarcane, oil seeds, cotton and jute, etc.



Paddy : It is the staple food crop of a majority of the people in India. Our country is the second largest producer of paddy in the world after China. It is a kharif crop which requires high temperature, (above 25°C) and high humidity with annual rainfall above 100 cm. In areas of less rainfall, it grows with the help of irrigation. Paddy is grown in the plains of north and north-eastern India, coastal areas and the deltaic regions. Development of dense networks of canal irrigation and tubewells has made it possible to grow rice even in areas with less rainfall such as Punjab, Haryana and western Uttar Pradesh and parts of Rajasthan.

Wheat: This is the second most important cereal crop. It is the main food crop in north and north-western part of the country. This rabi crop requires a cool growing season and a bright sunshine at the time of ripening. It requires 50 to 75 cm of annual rainfall evenly distributed over the growing season. There are two important wheat-growing zones in the country – the Ganga-Satluj plains in the northwest and black soil region of the Deccan. The major wheat-producing states are Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan and parts of Madhya Pradesh.

High Yielding Varieties

High Yielding Varieties of seeds and fertilizers are the key elements of new agriculture technologies. The HYVs seeds grow well when fertilizers and water are used; they have larger amounts of grain and shorter stalks and a short period maturity in most cases. The short period maturity also enables double cropping - farmers can use their lands more than once in a year.

This policy was initially implemented in Punjab, Haryana, Western Uttar Pradesh and in some districts of Andhra Pradesh and Tamil Nadu. The HYV seeds require a lot of water and these areas are already irrigated. The new variety of wheat is grown in Punjab, Haryana and Western Uttar Pradesh, while rice is grown in Telangana, Andhra Pradesh and Tamil Nadu.

Maize: It is a crop which is used both as food and fodder. It is a kharif crop which requires temperature between 21°C to 27°C and grows well in old alluvial soil. In some states like Bihar maize is grown in rabi season also. Use of modern inputs such as HYV seeds, fertilisers and irrigation have contributed to the increasing production of maize. Major maize-producing states are Karnataka, Uttar Pradesh, Bihar, Telangana, Andhra Pradesh and Madhya Pradesh.

Millets: Jowar, bajra and ragi are the important millets grown in India. Though these are known as coarse grains, they have very high nutritional value. For example, ragi is very rich in iron, calcium, other micro nutrients and roughage. Jowar is the third most important food crop with respect to area and production. It is a rain-fed crop mostly grown in the moist areas which hardly needs irrigation. Maharashtra is the largest producer of jowar followed by Karnataka, Telangana, Andhra Pradesh and Madhya Pradesh. Bajra grows well on sandy soils and shallow black soil. Rajasthan is the largest producer of bajra followed by Uttar Pradesh, Maharashtra, Gujarat and Haryana. Ragi is a crop of dry regions and grows well on red, black, sandy, loamy and shallow black soils. Karnataka is the largest producer of ragi followed by Tamil Nadu.

Pulses: India is the largest producer as well as the consumer of pulses in the world. These are the main source of protein in a vegetarian diet. Major pulses that

are grown in India are red gram, black gram, green gram, masur, peas and bengal gram. Pulses need less moisture and survive even in dry conditions. Being leguminous crops, all these crops except *arhar* help in restoring soil fertility by fixing nitrogen from the air. Therefore, these are mostly grown in rotation with other crops. Major pulse producing states in India are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka.

- Which of these pulses are grown in the kharif season and which are grown in the rabi season?

Food Crops other than Grains

Sugarcane: It is a tropical as well as a subtropical crop. It grows well in hot and humid climate with a temperature of 21°C to 27°C and an annual rainfall between 75cm. and 100cm. Irrigation is required in regions with low rainfall. It can be grown on a variety of soils and needs manual labour from sowing to harvesting. India is the second largest producer of sugarcane after Brazil. It is the main source of sugar, gur (jaggery), khandsari and molasses. The major sugarcane-producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Telangana, Andhra Pradesh, Bihar, Punjab and Haryana.

Oil Seeds: India is the largest producer of oilseeds in the world. Different oil seeds are grown covering approximately 12 per cent of the total cropped area of the country. Most of these are edible and used as cooking mediums. However, some of these are also used as raw material in the production of soap, cosmetics and ointments.

Groundnut is a kharif crop and accounts for about half of the major oilseeds produced in the country. Telangana and Andhra Pradesh are the largest producers of groundnut followed by Tamil Nadu, Karnataka, Gujarat and Maharashtra. Linseed and mustard are rabi crops. Sesamum is a kharif crop in north and rabi crop in south India. Castor seed is grown both as rabi and kharif crop.

Tea: Tea cultivation is an example of plantation agriculture. It is also an important beverage crop introduced in India initially by the British. Today, most of the tea plantations are owned by Indians. The tea plant grows well in tropical and sub-tropical climates endowed with deep and fertile well-drained soil, rich in humus and organic matter. Tea bushes require warm and moist frost-free climate all through the year. Frequent showers evenly distributed over the year ensure continuous growth of tender leaves. Tea is a labour intensive industry. It requires abundant and skilled labour. Tea is processed within the tea garden to



Fig 6.2 Tea plantation

restore its freshness. Major tea producing states are in the hill regions of Assam, West Bengal, Tamil Nadu and Kerala. India is one of the leading producer as well as exporter of tea in the world.

Coffee: India produces about four per cent of the world's coffee production.



Fig 6.3 Coffee plant

Indian coffee is known in the world for its good quality. The Arabica variety initially brought from Yemen is produced in the country. This variety is in great demand all over the world. Initially, its cultivation was introduced on the Baba Budan Hills and even today, its cultivation is confined to the Nilgiri in Karnataka, Kerala and Tamil Nadu.

Horticulture Crops: India is one of the leading producers of fruits and vegetables in the world. Tropical and temperate fruits like mangoes of

Maharashtra, Telangana, Andhra Pradesh, Uttar Pradesh and West Bengal; oranges of Nagpur and Cherrapunjee (Meghalaya); bananas of Kerala, Mizoram, Maharashtra and Tamil Nadu; lichi and guava of Uttar Pradesh and Bihar; pineapples of Meghalaya; grapes of Telangana & Andhra Pradesh and Maharashtra; apples, pears, apricots and walnuts of Jammu and Kashmir and Himachal Pradesh are in great demand the world over.

India produces about 1/6 of the world's vegetables. It is an important producer of pea, cauliflower, onion, cabbage, tomato, brinjal and potato.

Non-Food Crops

Rubber: It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas. It requires moist and humid climate with rainfall of more than 200 cm. and temperature above 25°C. Rubber is an important industrial raw material. It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands and Garo hills of Meghalaya. India is among the world's leading natural rubber producers.

Fibre Crops: Cotton, jute, and natural silk are the three major fibre crops grown in India. The first two are derived from the crops grown in the soil, the latter is obtained from cocoons of the silkworms fed on green leaves specially mulberry. Rearing of silk worms for the production of silk fibre is known as sericulture.

Cotton: India is believed to be the original home of cotton plant. Cotton is one of the main raw materials for cotton textile industry. India is the third-largest producer of cotton in the world. Cotton grows well in drier parts with black cotton soil in the Deccan plateau. It requires high temperature, light rainfall or irrigation, 210 frost-free days and bright sunshine for its growth. It is a kharif crop and

requires 6 to 8 months to mature. Major cotton-producing states are – Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Telangana, Andhra Pradesh, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.

Jute: It is known as the golden fibre. Jute grows well on well-drained fertile soils in the flood plains where soils are renewed every year. High temperature is required during the growth period. West Bengal, Bihar, Assam, Odisha and Meghalaya are the major jute producing states. It is used in making gunny bags, mats, ropes, yarn, carpets and other artefacts. Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly nylon. However, in the recent times, the market or ecofriendly jute has been growing.

- The following table shows some of the details of different crops and the important states which produce them. Not all the information is given. Refer an atlas and discuss with your teacher to complete the information in the table.
- Mark each crop using a particular (•, ○, ◆, ■) symbol in a (political) map of India and discuss the reasons for which only those states account for major share in the production of specific crops.

Sl. No.	Crop	Top states in 2014-15 and how much they contributed to total grains production	Reasons, both natural and other factors, that account for major share of production
1	Paddy	West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab, Odisha.	
2	Wheat	Uttar Pradesh, Punjab, Madhya Pradesh, Rajasthan, Haryana.	
3	Cereals	Rajasthan, Karnataka, Telangana & Andhra Pradesh, Maharashtra, Uttar Pradesh.	
4	Maize	Telangana & Andhra Pradesh, Karnataka, Maharashtra, Bihar, Tamilnadu.	
5	Pulses	Madhya Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Andhra Pradesh.	
6	Sugarcane	Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Bihar	
7	Oil seeds	Gujarat, Rajasthan, Madhya Pradesh, Maharashtra, Telangana & Andhra Pradesh	
8	Cotton	Gujarat, Maharashtra, Telangana & Andhra Pradesh, Haryana, Karnataka	

Importance of Agriculture

In this section, we shall look at agriculture from an overall view for the entire country. We would read about the changes that have taken place since the time of Independence to the present day and the challenges that we face today.

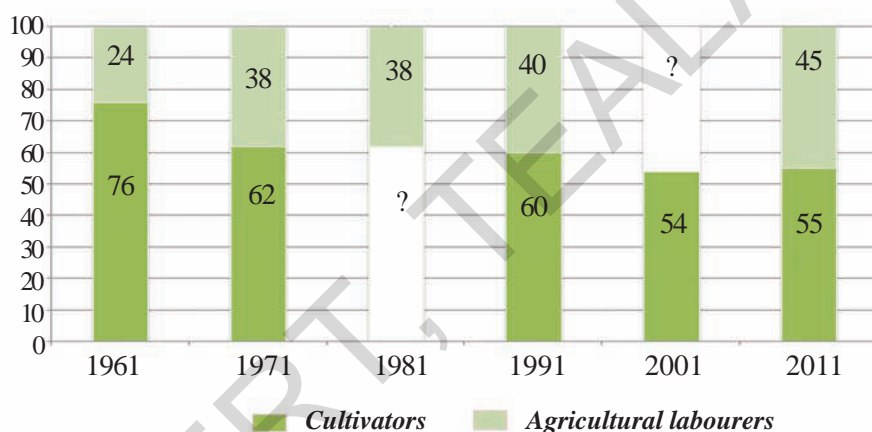
The food security of a nation depends on agriculture. A variety of raw materials required for industries are cultivated on farms. Wheat, paddy and other food crops are cultivated by farmers. Agriculture is a major source of livelihood for millions - giving employment to a large section of people.

More than half of the population of workers in India is working in the agriculture sector and its related activities. Between men and women, it is the women who get more employment opportunities in agriculture. Nearly 70 per cent of the working women are engaged in agriculture.

Two kinds of people are engaged in farming – agricultural labourers and cultivators. Cultivators are those farmers who have some land of their own and also use land belonging to others for cultivation. Agriculture labourers are those

who are landless labourers who work on other's lands.

*Cultivators and Agricultural Labourers
in 1961-2011 (%)*



Since population also increases with time, we look at the absolute numbers, the number of people working in agriculture increased from 97 million in 1951 to 234 million in 2001. Hence, the number of agricultural labourers who are seeking a livelihood in rural areas has increased, given the fact that they have very little or no land to cultivate. What are the other alternative job opportunities available to them? This is a serious challenge.

- Complete the bar diagram above and find out the percentage of cultivators and agricultural labourers in 1981 and 2001 respectively.
- Discuss the difference between self employment and looking for work using examples from your region.
- Do you think that some families who were earlier cultivators are becoming agricultural labourers now? Discuss.

Indian farmers are mostly small landholders

One distinct feature of Indian agriculture is the small land holdings. Most farmers work with only a small plot of land. Look at the following table.

Table 1: Number of farmers and land they possess in India (2010-2011)

Type and amount of land operated by farmers	Number of Farmers		How much land they operate with?		Average amount of land operated by farmers (acres)
	Number (lakhs)	%	Land in lakhs acres	%	
Marginal up to 2.5 acrs	924	?	875	?	?
Small 2.6 to 5 acrs	247	?	868	?	?
Semi-medium 5.1 to 10 acrs	138	10.0	927	?	6.7
Medium 10.1 to 25 acrs	59	4.3	833	?	14.1
Large More than 25acrs	10	?	429	?	?
Total	1378	100.00	3932	?	?

- Complete the data in the table and the explanation in the following passage below.

Majority of farmers operate only small plots of lands. A typical Indian marginal farmer has only about acres to cultivate. There are 924 lakh farmers so that% of all farmers are marginal. If we add up the number of small and marginal farmers, they form ...% of all farmers. However, even though in percentage terms medium and large farmers is small, the number in absolute terms is large.lakh farmers can be together considered to be in this group. They have a powerful voice in rural areas. This group of large and medium farmers together operate% of the land. Each large farmer, for example, on an average operatesacres of land. Compare this with each marginal farmer who operates on an average ...acres of land. This inequality in distribution of land explains the inequalities in opportunities that they experience, the poverty or growth opportunity that they face.

- In your opinion, what would be the minimum amount of land required to do viable farming which would give a farmer a decent earning. How many farmers in the above table are doing viable farming?
- Why do only a small section of farmers have a powerful voice?

Agricultural production depends on natural factors

Agricultural crops depend on seasons and natural resources such as soil and water and sunshine for cultivation. Temperature and rainfall conditions are important. Some crops can be cultivated only in specific seasons regardless of the availability of water and other inputs. Therefore, in any region, different crops are grown in different seasons. When you visit the ‘*Santha*’, a fruit or vegetable market, in different seasons you would notice these differences.

There are also variations in the natural conditions between different regions in the country.

Besides land reforms such as abolition of Zamindari, Land ceiling Act, the Indian government has also initiated other important policy changes. These can be seen in three phases – 1950-1965, 1966-1990 and Post 1991. Each phase signifies different facets of Indian agriculture.

The First Phase (1950-1965) - Increasing Irrigation and Building Dams

Between 1950 and 1965, the Indian Government invested heavily on irrigation and power projects. It was hoped that this would raise crop production and solve the problem of food shortage. Big dams for irrigation and electricity generation like Bhakra-Nangal (Himachal Pradesh) Damodar Valley (West Bengal), Hirakund (Odisha), Nagarjuna Sagar (Telangana & Andhra Pradesh), Gandhi Sagar (Madhya Pradesh) were constructed.

The area under cultivation and the irrigated area both went up and crop production increased. During this phase, government promoted the formation of farmer cooperatives and also appointed agricultural extension officers to provide technical support to farmers. A variety of initiatives, especially for small farmers, were taken at the mandal or block level through community development programmes.

Despite these developments, food shortages continued. During 1962-65, India faced two wars and the government spent a lot of money on the war. There was very little rain in and these years 1965 and 1966 were declared as drought years. This led to decline in the production of food grains and forced the government to import food grains.

- In an atlas, find the locations of the above mentioned dams and mark them on a map of India. Label the names of the major rivers on which these dams were built.

This situation of depending on other countries for food requirements worried the Indian leaders. The Indian Government began to change the policy towards agriculture and this phase was called as Green Revolution.

Second Phase (1966-1990) – Green Revolution and its spread

The government introduced new kind of seeds to the Indian soil which were invented in various agricultural research institutions in India as well as other countries. This marked the second phase of agricultural development. These new seeds are known as High Yielding Varieties. It was also accompanied by the use of chemical fertilizers, machinery such as tractors and others besides irrigation facilities. A variety of cooperative banks were set up in rural areas to provide credit to farmers so that they could buy raw materials such as seeds, fertilizer and pesticides and machinery required for modern farming.

Dryland Agriculture

A little over 40% of the total cultivable land in India is irrigated. This percentage can only go up to a maximum of 55%. The remaining 45% cannot be easily irrigated - it would be very difficult and expensive. Thus, these areas must depend solely on rainfall. These are the drylands in our country.

Some of the main crops grown in these areas are jowar, bajra, groundnut, ragi, cotton, soyabean, red gram and bengal gram.

Dryland areas are most suitable for certain crops. For example, 84% of the pulses grown in the entire country are from these areas. However, the production of pulses is not increasing and they are becoming more and more expensive.

What should then be done to increase production in such dryland areas? Unlike the cultivation of HYVs in irrigated lands, dryland farming poses different challenges. Conserving rainfall that the area receives is the first step. There are several ways in which people can stop rain water from quickly running off, so that it can soak into the ground and recharge the ground water. This is done through watershed development programmes which include afforestation, bunding, building check-dams and tanks. Also, fertility of the soil needs to be raised by adding organic material (compost and manure).

Farmers who grow crops like bengal gram, red gram, bajra, jowar, ragi, soyabean, groundnut, and cotton also need support. They may need new varieties of seeds suitable for different regions, knowledge about the best ways of growing a mix of crops on the same land, loans to purchase inputs, support prices for these crops etc. Farming of HYVs has now been adopted in dryland regions too.

- In which areas were the new methods of agriculture first tried? Why was the whole country not covered?
- Why are different methods necessary for dryland areas?

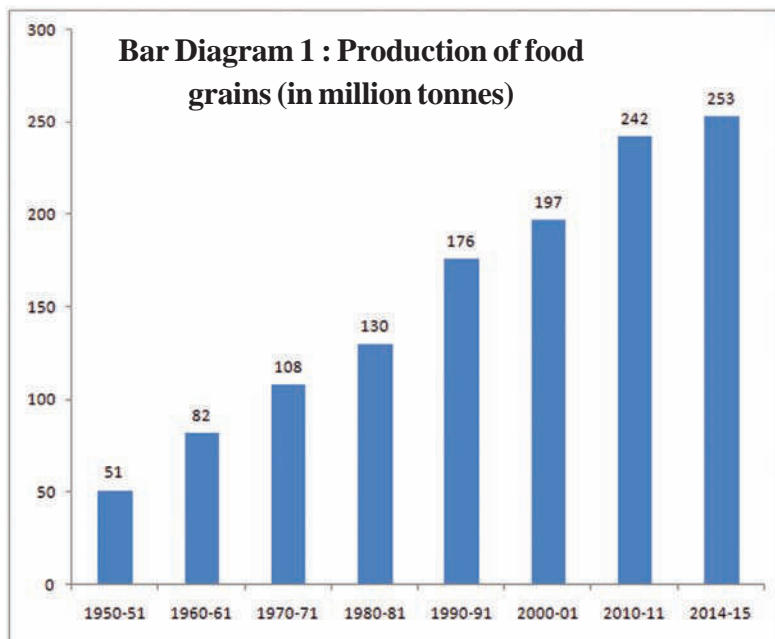
The Effects of the Green Revolution

Increase in Production

The spread of HYVs to large parts of the country and to newer crops has led to a significant increase in crop production in the country. India has become self-sufficient in food grains.

Due to the rise in food grains production, it was no longer necessary to import food grains from other countries. Today, food materials constitute only about three per cent of India's imports (Bar Diagram). The production of food grains has increased five times over the last five decades - from 1950-51 to 2014-15 is 253 million tonnes.

A large stock of food grains has also built up with the government through Food Corporation of India (FCI) that can be used in case of shortage and can avoid drought or famine-like situations in the country. The procurement of food grains is also used to supply food grains to inaccessible areas. In the year 1967, the total food grain stock with the government was only 19 lakh tonnes. By the year



2010-11, it increased to 220 lakh tonnes, about one tenth of total food grains produced in India.

Green revolution helped the farmers to produce higher quantities of foodgrains and non-foodgrains on the same plot of land. There was no major increase in the land used for cultivation. In 1960s, a farmer was able to produce an average of only 287 kilograms of foodgrains, be it paddy or wheat, on one acre of cultivable land.

Today, the same farmer is able to produce nearly 800 kilograms of foodgrains per acre of cultivable land.

- How increase in buffer stock would help to avoid situations of drought and famines?
- How farmers were able to raise higher amount of food grains on the same plot of land over the years?
- In which decades the food grains yields grow fast? What could be probable reasons for this?

Environmental Effects

The Green Revolution has also brought several environmental imbalances. As mentioned earlier, it was first introduced in the northern states of Punjab, Haryana and parts of Uttar Pradesh. We shall study some of the environmental problems faced by these areas.

Water problems

In these states, most farmers have shifted to cultivation of HYVs of rice and wheat which require plenty of water. The main source of irrigation in these states is tubewells that draw groundwater. As the number of tubewells increased over the years, the groundwater level fell rapidly. Groundwater level can be maintained as long as the use of groundwater is less than the groundwater recharge. Groundwater recharge is a natural process and happens each year through rainfall or flows from canals, streams and rivers. Water from these sources slowly flows through the various soil layers and collects as groundwater. The problem starts when the groundwater use through tubewells etc. is more than the groundwater recharge. A fall in groundwater level would mean that less groundwater is available for future use. Then there is the need to protect the ground water.

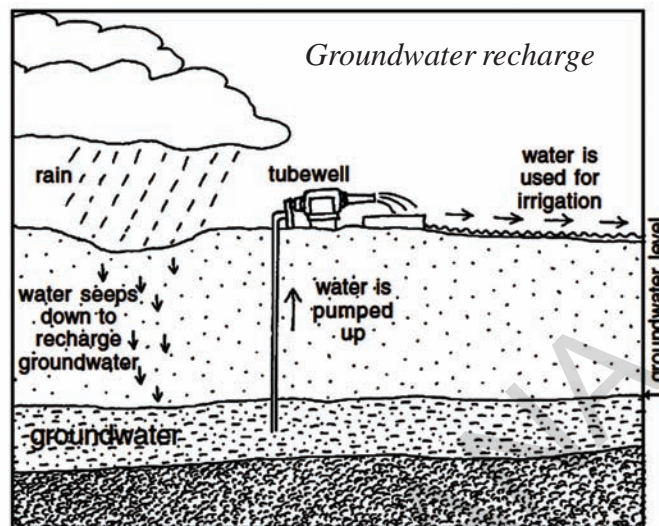
This problem of falling ground water level is faced by 10 out of 12 districts of Punjab and 9 out of 12 districts of Haryana. Experts fear that agriculture in Punjab could be in danger due to environmental damage over the past three decades.

Fertilizer Problems

Manure and compost contain humus and living organisms that slowly release minerals as they decompose. Chemical fertilizers provide minerals

(usually nitrogen, phosphorus and potassium) which dissolve in water and are immediately available to plants, but may not be retained in the soil for long. They may be leached from the soil and pollute groundwater, rivers, and lakes. Chemical fertilizers (as well as pesticides) can also kill bacteria and other organisms in the soil. This means that after some time of repeated use, the soil will be less fertile than ever before. Without micro-organisms, the soil will be dependent on frequent addition of more and more chemical fertilizers. The variety of nutrients which are normally produced by micro-organisms may also be reduced. Thus, in many areas, the Green Revolution has actually resulted in a loss of soil fertility and ever-increasing costs to farmers.

Environmental resources like soil fertility and groundwater are built up over many-many years. Once destroyed it is very difficult to restore them. Similar environmental imbalances are being faced by other regions with large-scale use of HYVs. Given that agriculture is heavily dependent on natural resources, how do we take care of the environment to ensure future development of agriculture? This is a complex question which is currently being debated.



What is fertile soil?

To be fertile, soil has to provide the right amounts of water, minerals, and air to the roots of plants. To do this, it must have the correct texture and the correct composition. Soil is composed of mineral particles (which come from the breakdown of rocks) as well as organic components (which are or have come from living organisms). To be available to roots, the minerals must be dissolved in the water.

Third Phase (1990s to the present) – Post Reform Agriculture

From 1967 to 1991, Indian farmers sold their produce to markets within the country and to the government through the FCI. People were also dependent on markets within the country for their food purchases. Foreign trade in farm products was not allowed. Export of most farm products, especially foodgrains, was banned. Imports were also not allowed. It was only the government that had the right to import from products in case of scarcity.

- We have also seen that the government supported farmers through the supply of cheap farm inputs and by offering to buy farm products at minimum support prices. Thus, the Indian farmers produced only for markets within the country and required government's support to earn a reasonable income from farming.
- Why did not the Indian government allow farmers to export foodgrains during the Green Revolution?
 - Why should government ban exports / import? How does this policy help Indian farmers?

Foreign Trade in Farm Products

As pointed out earlier, government took many protective measures in agriculture prior to 1991. However, there has been a significant change in the agriculture policy in India. Farm products are exported from and imported into India more than in the past.

Changes in farm trade policy are not taking place in India alone. Many developing countries in Asia, Africa and South America have made similar changes in the policies. This is because the developed countries are putting pressure on them to allow foreign trade. These developed countries want to sell their surplus farm products in the developing countries that have a large number of buyers.

With the foreign trade policy changes, many crops can now be traded. For instance, farmers can now export vegetables and fruits, sugar and jaggery. Similarly, import of cotton, rubber, pulses, oilseeds are freely allowed. However, farmers cannot export food grains. Since food grains are the most important food item, the Indian government has been cautious to allow trade in food grains. Only the government can do so, if it wishes.

Organic Farming – The experience of a farmer in Odisha

In order to overcome the ill effects of Green Revolution, farmers in India have begun to adopt different farming practices. Let us look at an example. Aged 80, Natwarbhai is a resident of Narishu village, near Niali in Cuttack district, Odisha. A retired school teacher, he has been practising organic farming for the last decade or so, and swears by its potential to feed India's population. He says some of the varieties he grows yield over 20 quintals per acre, higher than the so-called 'high-yielding' varieties that farmers around him get after using chemical fertilizers and pesticides. Infact he spends much less on his crops since his main inputs are gobar, natural pesticides when occasionally needed and family labour.

Natwarbhai was earlier a 'modern' farmer. One day, while watching a labourer spray Carbofuran (a highly toxic pesticide), he was horrified to see him stagger and collapse. The worker was rushed for treatment. He survived but not Natwarbhai's faith in the new agriculture was lost. Especially after the labourer told him: "I could not breathe, my head was reeling"; and especially after, having buried the remaining stock of Carbofuran in a pit in his fields, Natwarbhai "saw dead snails, snakes, and frogs floating in the water that had accumulated there. "I immediately wondered what would be happening to the earthworms and micro-organisms that I knew kept the soil alive."

Natwarbhai switched to organic inputs, but with the high yielding varieties that the agricultural department provided. On the advise of the son, Rajendra, started cultivating traditional varieties. But such traditional varieties are rarely cultivated Now a days. It posed a big problem.

In 1999, he started his journey to search for traditional varieties of paddy seeds. He travelled all over Odisha, and a little outside, about 5,000 kms. He collected dozens of

traditional varieties of seeds from the areas termed as backward. He tried cultivating them all, noting down their names, characteristics and productivity.

Source: Adapted from Ashish Kothari, A New Rice Every day? The Hindu, December 9, 2012.

- Can organic farming produce enough food for all?
- How is organic farming especially suited for small and marginal farmers? Discuss.

The developed countries are however constantly putting pressure on India to allow greater imports of crops produced in their countries.

Foreign trade could cause farmers income to fluctuate. In certain years and for certain crops the farmers might gain from exports. In other years, farmers could lose because of cheap imports and fall in prices of farm products. Small farmers without much savings will not be able to bear this loss. They will get caught in debt trap and become poorer. The government has to be very careful in allowing trade in farm products.

Why does Government buy and store some grain?

A lot of grain comes into the market at the time of harvest. One problem that farmers face is lower price of grain during this time. This means farmers are not able to sell grain at a high enough price to be able to repay their loans and continue using the new farming methods. They need to be protected from traders who might try to purchase the grains at low prices.

Therefore, the government has decided to set a Minimum Support Price (MSP). A Minimum Support Price is a price at which the farmers can sell their grain if they want to the government. The government sets the MSP so as to cover the cost of cultivation and allow a little bit of profit to the farmer. Because of the MSP, farmers are not forced to sell their grains at cheaper prices to the traders.

The Food Corporation of India (FCI) was formed by the government to purchase food grains from the farmers and store them. It keeps stockpiles and supplies grain to ration shops and other government schemes (e.g. for midday meals in schools).

Keywords

1. Chemical fertiliser
2. Green revolution
3. Organic material
4. Dryland agriculture
5. Modern farming practices
6. Foreign trade policy

Improve your learning

1. Name one important beverage crop and specify the geographical conditions required for its growth.
2. The land under cultivation has been reducing day by day. Can you imagine its consequences?
3. On an outline map of India, show the millet producing areas.
4. What is Minimum Support Price (MSP)? How is it being implemented in your area?



5. Explain all the ways in which the Indian government supported the Green Revolution.
6. Do you think it is important for India to be self-sufficient in food grains production? Discuss.
7. How is dry land agriculture different from irrigated agriculture?
8. Can you recall incidents such as pesticides being found in soft drinks? How is this related to the use of pesticides? Discuss.
9. Why are chemical fertilizers used in new farming methods? How could use of fertilizers make soil less fertile? What are the alternative ways of enriching soil?
10. How has the Green Revolution in some areas resulted in short-term gains but long-term losses to farmers?
11. What could be the effects of foreign trade on farmers' income?
12. In earlier classes, we had studied about land distribution. How does the following image reflect this idea? Write a paragraph about this in the context of Indian agriculture.
13. Read the paragraph under the title 'Fertilizer Problems' on page 70 and comment on it.
14. Observe the map given in the page 74 and locate the States where paddy is grown in the outline map of India.



Discussion:

Do you feel that the farmers who cultivate are happy? If not, What are the reasons? What are the factors that affect agriculture?

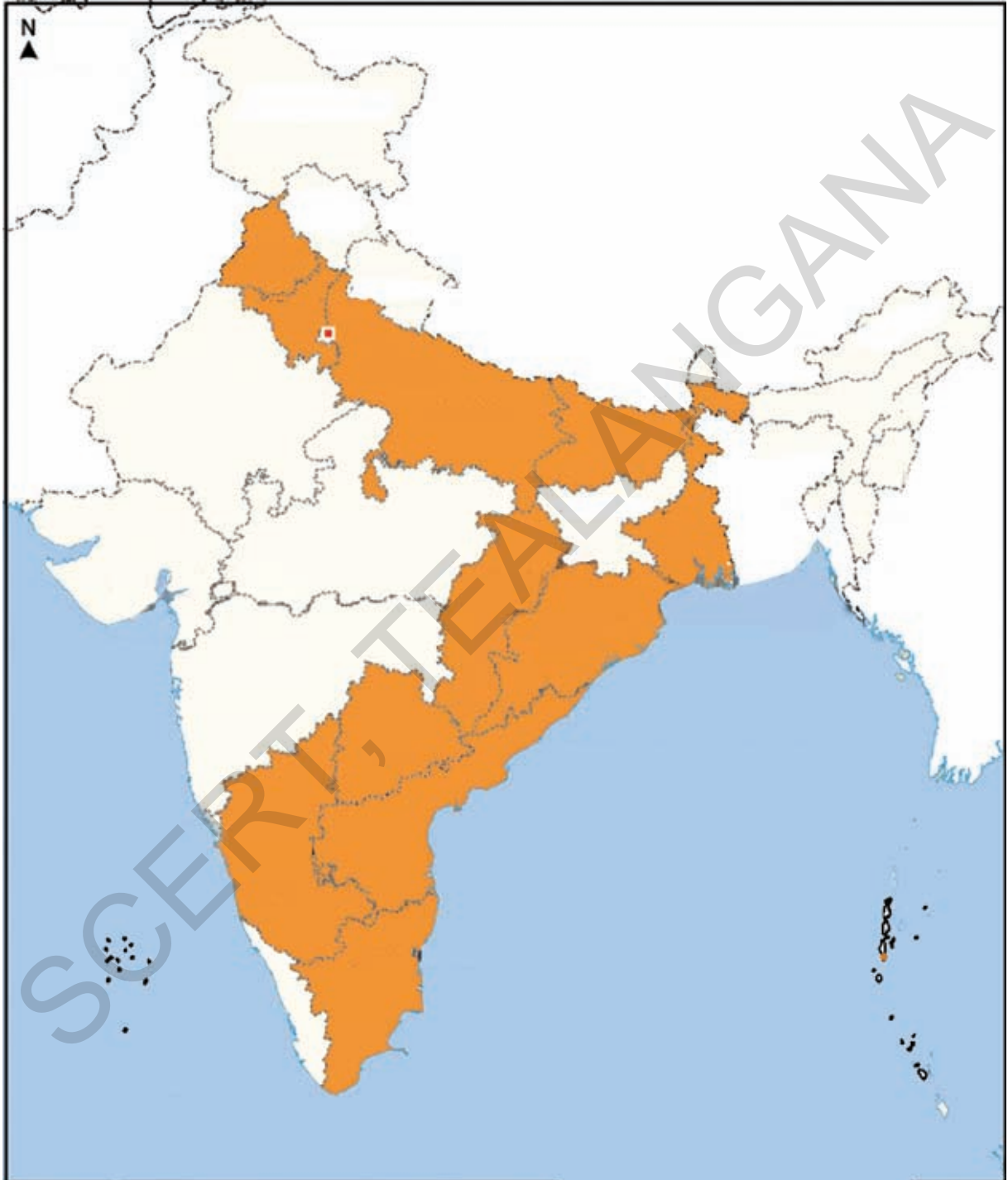
Debate: In agriculture, whether it is to be followed organic or chemical fertilizers and pesticides? Conduct a debate in classroom keeping the population increase in mind.

Project

Which crops are grown in your area? Which of these are grown from HYV seeds and which ones are grown from traditional seeds? Compare the HYV seeds and the traditional seeds with regard to each of the following points:

- | | | |
|----------------------|-------------------------------|----------------|
| (a) duration of crop | (b) number of times irrigated | (c) production |
| (d) fertilisers | (e) diseases | (f) pesticides |

Map - 1 Find the Paddy producing states in India





Industries in India

PART - I

Basic necessities for setting up factories

Industries are an essential part of a nation's development. You may recall what you studied in class VII about various kinds of manufacturing processes. The story of the paper industry was one example. You would have noticed how factories work and about the process of manufacturing whether at home, in a small shed or in a large factory. In this chapter, we will learn about how Indian industries have grown over the years and the role of government initiatives in promoting industries.

India's main industrial activity for a long time was handicrafts, particularly textile goods. Under the colonial rule, barring a few industries, India could not develop a sound industrial base. It did not have the capacity to produce a wide range of goods. Most industrial products had to be imported. The general policy of British government was not to develop modern industry in India but to ensure that India provided a market for British goods. This led to the destruction of India's traditional craft industries and massive unemployment of craft persons. After 1947, India began many initiatives to promote industrial activities in the country. One important driving force behind this idea was to become self sufficient in meeting our needs and to make the country an industrially developed nation.

For factories, you need machines. A modern factory manufacturing cloth, for instance, would use loom that runs on electricity as compared to hand looms. These looms produce a large quantity of cloth in a short time. Similarly, there are complex machines that produce cement, cars, edible oils etc. To run these machines, all factories require a source of power which is usually electricity. Hence, factories require machines and electricity to run them.

Further, all factories need raw materials from which goods can be produced. For example, steel is required to produce cycles. There are some factories which produce steel sheets from iron and coal. Other factories use these sheets to manufacture steel tubes. Finally, the cycle factory uses these steel tubes to manufacture the steel frame for the cycle. Note that the basic sources of steel are raw materials like iron and coal. As in the above example, minerals and ores form the basic source from which various raw materials required by factories are produced.

A large number of goods are produced by factories that are used by other factories. These are intermediate steps in the chain of production by many factories before we can get final goods that are directly used by people/ consumers/ producers.

Transportation is needed to bring raw materials to factories and transfer finished goods from them. Trucks, railways and ships are the various means of transport. For this, you require some essential facilities such as: a system of roads which are in good condition and which link a large number of towns and villages in the country; a system of transporting material by rail; ports which can accommodate a large number of ships and also organize the loading and unloading from them.

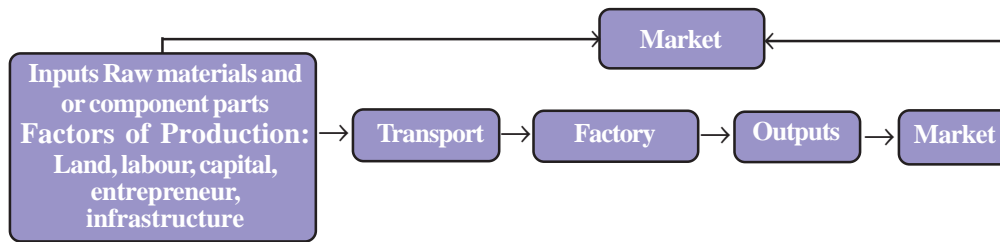
Hence, for industrialisation, i.e. to develop a large number of different factories, we have certain basic requirements like machines, electricity, minerals and ores, and transport facilities.

Factories producing these essential goods - machines, electricity, minerals and ores, and transport facilities - are basic industries. Basic industries produce essential goods that can form a base to support a large variety of factories.

Industrial Location

Industrial locations are complex in nature. These are influenced by availability of raw material, labour, capital, power and market etc. It is rarely possible to find all these factors available at one place. Consequently, manufacturing activity tends to be located at the most appropriate place where all the factors of industrial location are either available or can be arranged at lower cost. After an industrial activity starts, urbanisation follows. Sometimes, industries are located in or near the cities. Thus, industrialisation and urbanisation go hand in hand. Cities provide markets as well as services such as banking, insurance, transport, labour, consultants and financial advice etc. to the industry. Many industries tend to come together to make use of the advantages offered by the urban centres known as agglomeration economies. Gradually, a large industrial agglomeration takes place. In the pre-independence period, most manufacturing units were located in cities from the point of view of overseas trade such as Mumbai, Kolkata, Chennai etc. Consequently, there emerged certain pockets of industrially developed urban centres surrounded by a huge agricultural rural hinterland.

- Can you make a list of the products that are produced by factories for other factories?
- Iron is the basic requirement for a large number of goods produced by various factories. Explain this with examples that you see around.
- Have you seen machines used in a factory? Make a collage of different kinds of machines that are used.
- Make a chart to show how petroleum is the basic requirement for a large number of products.
- Discuss what is meant by the word 'basic'. What are the basic necessities for industries?
- At the time of independence, what were the objectives that were desired to be achieved through industrialization?



Activity

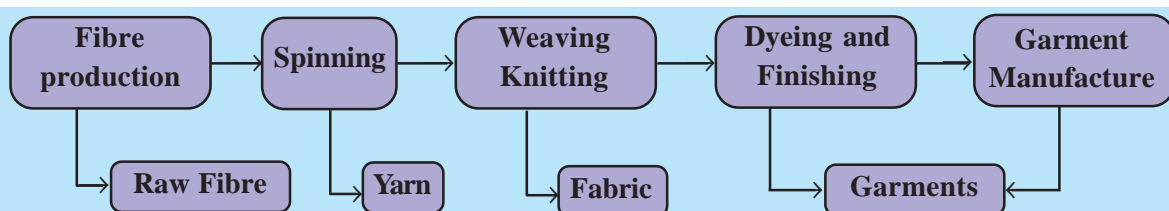
- Collect the wrappers of a few tea packets and tooth paste. Read the wrappers carefully and try to relate to the question below.
_____ can be considered as a product of agro based industry. _____ can be considered a product of mineral based industry.
- Raw material for the tooth paste _____ and _____ are produced in another industry. That industry is called key or basic industry. Whereas the tooth paste is a consumer goods and the industry producing such goods is called consumer goods industry.
- The ownership of industries could be lying with individuals or groups of individuals such as _____ (for the tea packets) and _____ (tooth paste). Such an industry is called a private sector industry whereas if the ownership belongs to the government, it will be known as public sector industry. Two examples of public sector industries are _____ and _____.
- Some industries are also owned by large number of people who supply raw materials (milk / sugarcane) or supply their labour (coir) pool their resources to run them. Such industries are called cooperative industries.

Agro Based Industries

The industries which are based on agricultural products are called agro based industries.

Textile Industry: The textile industry occupies a unique position in the Indian economy because it contributes significantly to industrial production (14%), employment generation (45 million persons directly - the second largest after agriculture) and export earnings (about 15% in 2017-18). It contributes 4% towards GDP (Gross Domestic Product). It is the only industry in the country which is self-reliant and complete in the value chain i.e. from raw material to the highest value added products.

(Source: Ministry of Textiles [September, 2018])

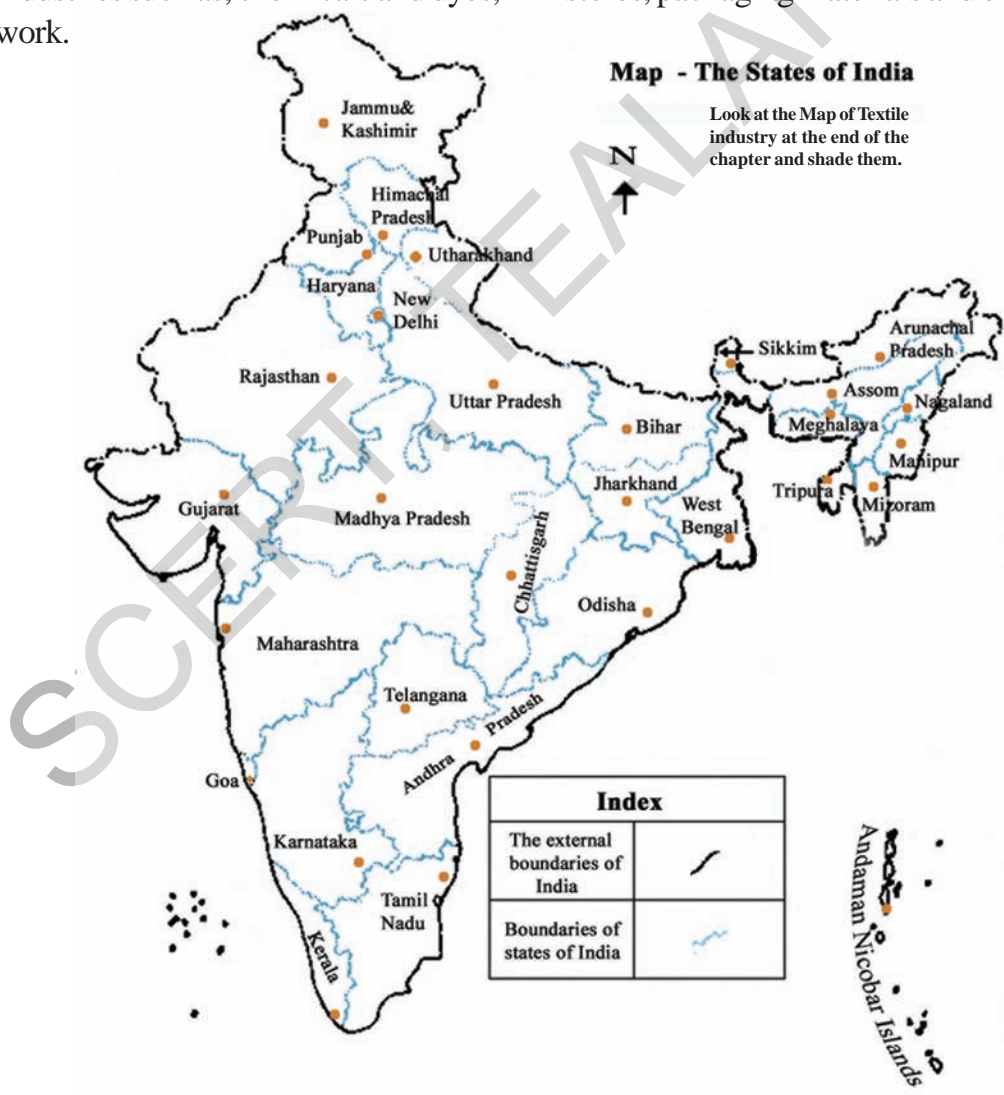


Value addition in the textile industry

Cotton Textiles: In ancient India, cotton textiles were produced using hand spinning and handloom weaving techniques. After the 18th century, power-looms came into use. Our traditional industries suffered a setback during the colonial period because they could not compete with the mill-made cloth from England. In England, cotton textiles were produced in large quantities with the help of power loom. Mill-made cloth was cheaper on account of large scale production and lesser taxes.

About 80% of these are in the private sector and the rest in the public and cooperative sectors. Apart from these, there are several thousand small factories with four to ten looms.

In the early years, the cotton textile industry was concentrated in the cotton growing belts of Maharashtra and Gujarat. Availability of raw cotton, market, transport including accessible port facilities, labour, moist climate etc. contributed towards its localisation. This industry has close links with agriculture and provides a living to farmers, cotton ball pluckers and workers engaged in ginning, spinning, weaving, dyeing, designing, packaging, tailoring and sewing. The industry, by creating demand, supports many other industries such as, chemicals and dyes, mill stores, packaging materials and engineering work.



- The first successful textile mill was established in Mumbai in 1854.
- When the two world wars were fought in Europe, India was a British colony. There was a demand for cloth in U.K. Hence, they gave a boost to the development of the cotton textile industry.

While spinning continues to be centralised in Maharashtra, Gujarat and Tamil Nadu, weaving is highly decentralised to provide scope for incorporating traditional skills and designs of weaving in

cotton, silk, zari, embroidery etc. India has world class production in spinning, but weaving supplies low quality of fabric as it cannot use much of the high quality yarn produced in the country. Weaving is done by handlooms, powerlooms and in mills.

The handspun khadi provides large scale employment to weavers in their homes as a cottage industry. India also exports yarn to Japan.

- Why did Mahatma Gandhi lay emphasis on spinning yarn and weaving khadi?

Other importers of cotton goods from India are U.S.A., U.K., Russia, France, East European countries, Nepal, Singapore, Sri Lanka and African countries.

Jute Textiles: India is the largest producer of raw jute and jute goods and stands at second place as an exporter of Jute after Bangladesh. There are about 70 jute mills in India. Most of these are located in West Bengal mainly along the banks of the Hugli river 98 km long and 3 km wide.

Factors responsible for their location in the Hugli basin are: proximity of the jute producing areas, inexpensive water transport, supported by a good network of railways, roadways and waterways to facilitate movement of raw material to the mills, abundant water for processing raw jute, cheap labour from West Bengal and adjoining states of Bihar, Odisha and Uttar Pradesh. Kolkata, as a large urban centre, provides banking, insurance and port facilities for export of jute goods.

Do you know?

The first jute mill was set up near Kolkata in 1859 at Rishra. After Partition in 1947, the jute mills remained in India but three-fourth of the jute producing area went to Bangladesh (erstwhile East Pakistan).

The jute industry supports 2.61 lakh workers directly and another 40 lakhs small and marginal farmers who are engaged in cultivation of jute and mesta. Many more people are associated indirectly.

Challenges faced by the industry include stiff competition in the international market from synthetic substitutes and from other competitors like Bangladesh, Brazil, Philippines, Egypt and Thailand. However, the internal demand has been on the increase due to the Government policy of mandatory use of jute packaging. To stimulate demand, the products need to be diversified. In 2005, National Jute Policy was formulated with the objective of increasing production, improving quality, ensuring good prices to the jute farmers

and enhancing the yield per hectare. The main markets are U.S.A., Canada, Russia, United Arab Emirates, U.K. and Australia. The growing global concern for environment friendly, biodegradable materials has once again opened up the opportunity for jute products.

Sugar Industry: India stands second as a world producer of sugar but occupies the first place in the production of jaggery and khandsari (The raw material used in this industry is bulky and in haulage its sucrose content reduces). There are over 460 sugar mills in the country spread over Uttar Pradesh, Bihar, Maharashtra, Karnataka, Tamil Nadu, Telangana & Andhra Pradesh and Gujarat along with Punjab, Haryana and Madhya Pradesh. 60% mills are in Uttar Pradesh and Bihar. This industry is seasonal in nature so it is ideally suited to the cooperative sector. Can you explain why this is so?

- Where should the sugar and jaggery mills be ideally located?

In recent years, there has been tendency for the mills to shift and concentrate in the southern and western states, especially in Maharashtra. This is because the cane produced here has a higher sucrose content. The cooler climate also ensures a longer crushing season. Moreover, the cooperatives are more successful in these states.

Major challenges include the seasonal nature of the industry, old and inefficient methods of production, transport delay in transporting cane to factories and the need to maximise the use of bagasse.

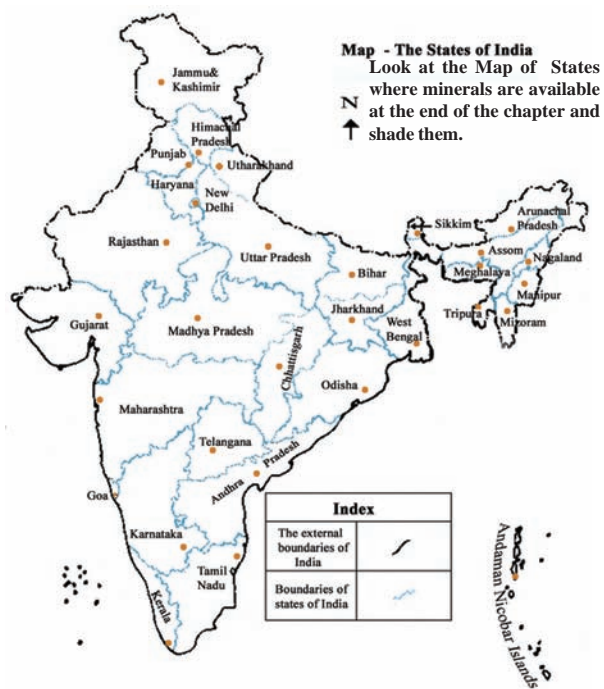
Mineral based Industries

Industries that use minerals and metals as raw materials are called mineral based industries. Can you name some industries that would fall in this category?

The minerals are widespread in Indian subcontinent based on their geological structures. The minerals essential for iron and steel industries are located predominantly in Peninsular India.

Therefore, iron and steel plants are also distributed in the same places as the minerals are located. The industry is dependent on power resources which are equally essential for the operation of industries. Conventional energy resources of coal, petroleum, gas are also available in the same regions which further helps in mineral based localisation of industries.

Iron and Steel Industry: The iron and steel industry are the basic industries since all the other industries-heavy, medium and light,



depend on them for their machinery. Steel is needed to manufacture a variety of engineering goods, construction material, defence, medical, telephonic, scientific equipment and a variety of consumer goods.

Make a list of all such goods made of steel that you can think of. Production and consumption of steel is often regarded as the index of a country's development. Iron and steel is a heavy industry because all the raw materials as well as finished goods are heavy and bulky, entailing heavy transportation costs. Iron ore, coking coal and lime stone are required in the ratio of approximately 4 : 2 : 1. Some quantities of manganese are also required to harden the steel. Where should the steel plants be ideally located? Remember that the finished products also need an efficient transport network for their distribution to the markets and consumers.

Today with 32.8 million tons of steel production, India ranks ninth among the world crude steel producers. It is the largest producer of sponge iron. In spite of large quantity of production of steel, per capita consumption per annum is only 32 kg.

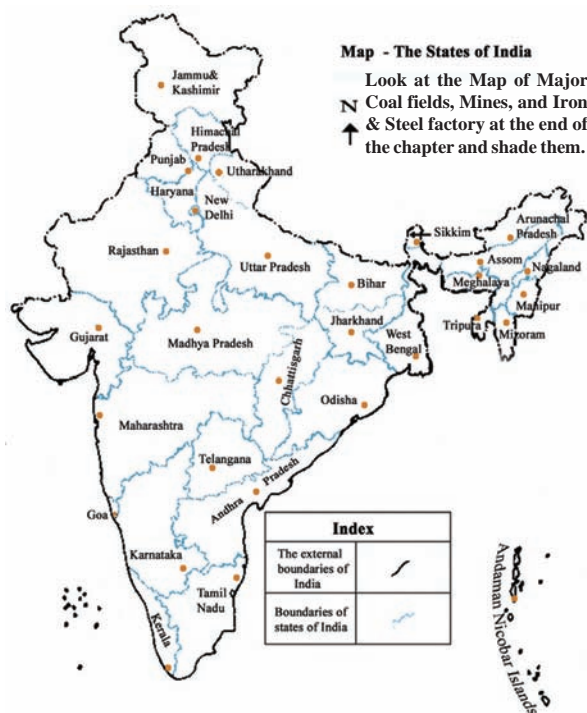
- Why is the per capita consumption of steel so low in India?

Aluminium Smelting: Aluminium smelting is the second most important metallurgical industry in India. It is light, resistant to corrosion, a good conductor of heat, malleable and becomes strong when it is mixed with other metals. It is used to manufacture aircraft, utensils and wires. It has gained popularity as a substitute of steel, copper, zinc and lead in a number of industries.

There are 8 aluminium smelting plants in the country located in Odisha (Nalco and Balco), West Bengal, Kerala, Uttar Pradesh, Chattisgarh, Maharashtra and Tamil Nadu. In 2004, India produced over 600 million tons of aluminium.

Bauxite, the raw material used in the smelters, is a very bulky, dark reddish coloured rock. Regular supply of electricity and an assured source of raw material at minimum cost are the two prime factors for the location of the industry.

Chemical Industries: The Chemical industry in India is fast growing and diversifying. It contributes approximately 3% to the GDP. It is the third largest in Asia and occupies the twelfth place in the world in term of its size. It comprises of both large and small



scale manufacturing units. Rapid growth has been recorded in both inorganic and organic sectors. Inorganic chemicals include sulphuric acid (used to manufacture fertilisers, synthetic fibres, plastics, adhesives, paints, dyes stuffs), nitric acid, alkalies, soda ash (used to make glass, soaps and detergents, paper) and caustic soda. These industries are widely spread over the country. Why do you think is it so?

Organic chemicals include petrochemicals, which are used for manufacturing of synthetic fibers, synthetic rubber, plastics, dye-stuffs, drugs and pharmaceuticals. Organic chemical plants are located near oil refineries or petrochemical plants.

The chemical industry is its own largest consumer. Basic chemicals undergo processing to further produce other chemicals that are used for industrial application, agriculture or directly for consumer markets. Make a list of the products you are aware of.

Fertiliser Industry: The fertiliser industry is centred around the production of nitrogenous fertilisers (mainly urea), phosphatic fertilisers and ammonium phosphate (DAP) and complex fertilisers which have a combination of nitrogen (N), phosphate (P), and potash (K). The third, i.e. potash, is entirely imported as we do not have commercially usable potash or potassium compounds in any form. India is a large producer of nitrogenous fertilisers. There are 57 fertiliser units manufacturing nitrogenous and complex nitrogenous fertilisers, 29 for urea and 9 for producing ammonium sulphate as a by-product and 68 other small units produce single superphosphate. At present, there are 10 public sector undertakings and one in cooperative sector at Hazira in Gujarat under the Fertiliser Corporation of India.

After the Green Revolution, the industry expanded to several other parts of the country. Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala contribute towards half the fertiliser production.

Cement Industry: Cement is essential for construction activity such as building houses, factories, bridges, roads, airports, dams and for other commercial establishments. This industry requires bulky and heavy raw materials like limestone, silica, alumina and gypsum. Coal and electric power are needed apart from rail transportation.

The first cement plant was set up in Chennai in 1904. After Independence, the industry expanded. Decontrol of price and distribution since 1989 and other policy reforms led the cement industry to make rapid strides in capacity, process, technology and production. There are 128 large plants and 332 mini cement plants in the country.

- Where would it be economically viable to set up the cement manufacturing units?
- The industry has strategically located plants in Gujarat that have suitable access to the market in the Gulf countries. Find out where the plants are located in other states of India. Find their names.

Improvement in the quality has found the produce a readily available market in East Asia, Middle East, Africa and South Asia apart from a large demand within the country. This industry is doing well in terms of production as well as export. Efforts are being made to generate adequate domestic demand and supply in order to sustain this industry.

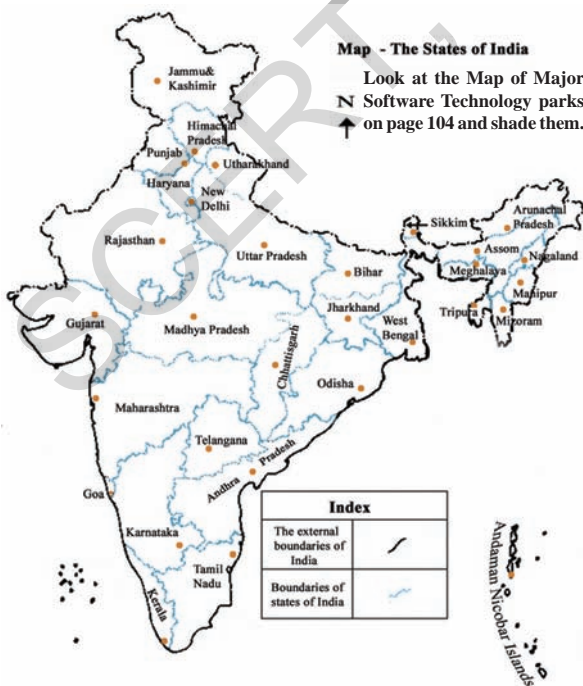
Automobile Industry

Automobiles vehicles provide quick transport of goods and passengers. Trucks, buses, cars, motor cycles, scooters, three-wheelers and multi-utility vehicles are manufactured in India at various centres. After liberalisation of economic policies in 1991, many MNCs were set up for the production of automobiles in India to take the advantage of the availability of labour in India for export. This gave domestic market for automobiles in India. Usage of vehicles is polluting the atmosphere. Lack of efficient public transport may be another cause for the increase of automobiles in India. The industry is located around Delhi, Gurgaon, Mumbai, Pune, Chennai, Kolkata, Lucknow, Indore, Hyderabad, Jamshedpur and Bangalore.

- What are the major concerns for the starting of automobile industry? Discuss.

Information Technology and Electronics Industry

The electronics industry covers a wide range of products from transistor sets to television, telephones, cellular telecom, pagers, telephone exchange, radars, computers and many other equipments required by the telecommunication industry. Bangalore has emerged as the electronic capital of India. Other important centres for electronic goods are Mumbai, Delhi, Hyderabad, Pune, Chennai, Kolkata, Lucknow and Coimbatore. Software technology parks provide single window service and high data communication facility to software experts. A major impact of this industry has been on employment generation. Upto 31st March 2018, the IT industry employed nearly 3.8 million persons. This number is expected to increase on an average at about one lakh per annum in the next 3 to 4 years. It is encouraging to know that 30% of the people employed in this sector are women. This industry has been a major foreign exchange earner in the last two or three years because



of its fast growing Business Processes Outsourcing (BPO) sector. The continuing growth in the hardware and software industries is the key to the success of IT industry in India.

In this section, we read about various types of major industries, their geographical distribution and the localising factors. However, the industries are also posing environmental threat in terms of land, air and water pollution.

Fill in the blanks in the following table. For some industries, you may need to discuss with the teacher.

Industry	States in which they are currently concentrated	Why are they concentrated in those states?
Chemical Industry		
Fertiliser Industry		
Cement Industry		
Automobiles industry		

PART - II

Government and Industrial Development – The Early Years

In India, a few large factories are operated by government and most others by private companies. This kind of existence of industries run by both government and private industrialists has emerged because of the policy decided by the Indian Parliament.

This kind of arrangement was made keeping in view the huge amount of capital required to set up large industries at that time in India. As we read above, for a large number of industries to come up it is important to provide basic inputs. Hence it was presumed that government can invest in basic goods industries and this would also help privately-owned industries for their expansion. Basic goods industries not only require more money but also take a long time to be set up. Private industrial groups or families were not willing to invest in such industries. For example, for setting up a power plant – production of electricity, it would require five to ten years. The government had to undertake this responsibility.

Similarly, government also took the responsibility to provide infrastructure activities – building roads, maintaining transport services such as railways, roadways, airways, water supply, production of gas, oil and other petroleum products.

Government also introduced many restrictions so that small producers could be helped. Many industrial activities were allowed only for small producers. For

example, production of cloth of a specific quality was restricted to handlooms. Many craft production or small scale manufacturing that people could do in their homes or workshops were not allowed to be produced in factories.

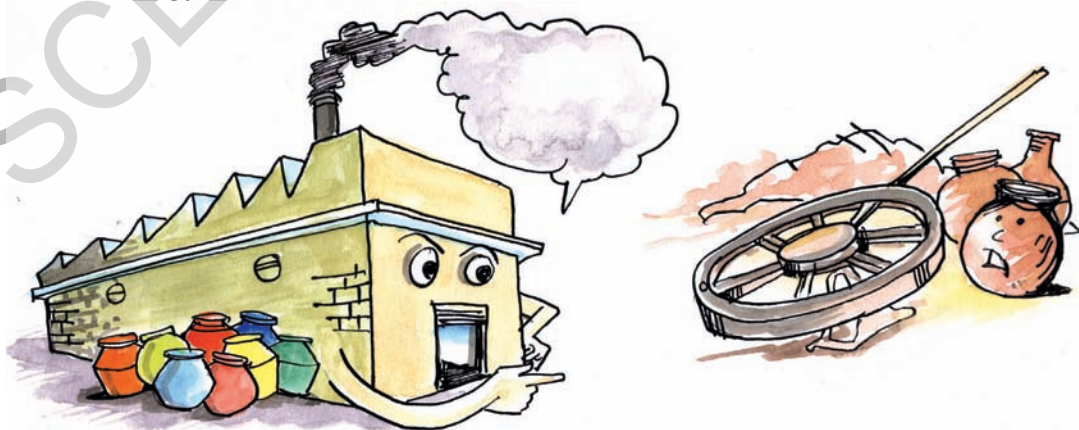
Government made laws so that the large factory owners get prior permission-license-to set up factories. This was done so that there would be better planning and co ordination. Government was wary of one industrial unit dominating in producing specific goods. In such a situation, it is possible that the factory owners may charge higher price from consumers for his or her goods when there is no competition. The government regulated the quantity of goods produced by factories. For some goods, the price at which they can be sold was also fixed.

Emerging Problems

Over the years, many of these industrial policies became a hindrance to the growth of the industry. Those aspiring to set up an industrial unit were required to follow so many procedures and had to wait for many years to get the approval from the government offices. There were administrative hurdles, such as delays in processing applications, which gave rise to the unhealthy practice of bribes.

There were many instances of misuse of the licensing system. Licenses were not always given to the most efficient producers. The selection was biased in favour of people with political connections and those who were economically powerful. Thus, the big and influential people would corner not one but several licenses. Some of these would be in very different and unrelated products. For example, a textile manufacturer having secured a license for cement would start a cement factory, even though the firm had no special competence in the area of cement production. During the 1970s and 1980s, many of the industrial families in India had licenses for production of almost all major industrial goods and only few new people could get into industrial production.

All this discouraged new entrepreneurs, those who were willing to take the risk of investing money in industrial production and who would work with the latest technology available.



Write an imaginary dialogue between the big factory and the potter's wheel in the context of industrilation.

When government controlled the price of certain goods, the producers of these goods felt that there was no incentive in producing more goods. Rather, control on prices led to shortage of goods. For example, to buy a scooter, one had to book and wait for several years before the scooter was actually delivered. There was always a greater demand for scooters than was the availability in the market. Such shortages were also common for important basic goods like coal and cement, which in turn, caused a lot of delay to production of other goods. The shortages were blamed on the government's policy of control on Indian industry, particularly its licensing policy. If only these restrictions on industry were removed, industrialists complained, production could increase and shortages would be removed.

The protective measures towards small producers also met with little success with many large producers producing goods clandestinely as small producers.

Another problem faced by Indian industry was the lack of quality of some of its products. For example, compared to the topmost brand of car produced in India, there were many other car producers in the world whose cars were of better quality and also cheaper. One of the reasons for low quality was said to be the lack of competition among producers in the Indian industry. Even among industries that were run by private producers, competition was limited due to the government controls. There were controls on opening new factories and buying new machinery. Import and export of industrial goods, including machinery and raw materials, were controlled. Private manufacturers needed the government's permission (license) for all such activities. Prices of important industrial goods were laid down by the government and the producer had to sell only at that price. Many people were of the view that Indian industry, as a result of government's controls, wasn't modernizing fast and was producing goods at high cost and not making technological improvements.

In the case of government industrial enterprises, government used to allocate a specific amount every year to operate these industries. In the long run, these were expected to become independent and generate revenue for the government. However, it was the other way around for many government run factories they continually required government assistance and there was regular interference in running them. Their functioning was much below what was expected.

New Policy for Industries

In the 1990s, the country began to relook at the industrial policies till then. A new industrial policy was announced in India. Many activities which were earlier restricted only for the government were now allowed for the private industries.

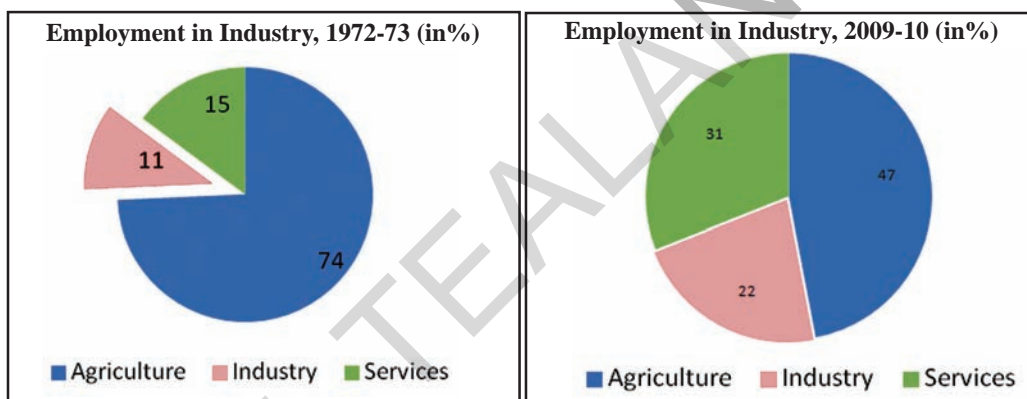
Government also relaxed laws so that factory-made consumer goods were also imported from other countries. Many government rules were simplified to encourage industrial activities in India especially for new entrepreneurs.

In order to improve the efficiency of public sector companies, government sold some of them. The financial support provided by government to run these companies has also got reduced. These companies are also allowed to take decisions independently without interference from government.

Private or government companies from other countries are now encouraged to come and set up factories in India so that new technology would become common and more goods could be exported to markets outside the country.

Impact of Industrialisation Policies

There has been a rise in the number of industrial units due to the industrialisation policies. Employment has increased but less than expected and of low paying quality. Today, nearly 2 lakh large factories, also called organised manufacturing units, and nearly 3 crore small (also called unorganised) manufacturing units are operating in India. These industrial units, both large and small, employ nearly about one-fifth of India's 460 million workers today.



Look at the following pie charts. These show employment in the three kinds of economic activities as percentage of total workers at that time.

One important point in industrial development after the new policies were introduced was that the role of small firms has declined with many big industries coming up to produce factory-based goods.

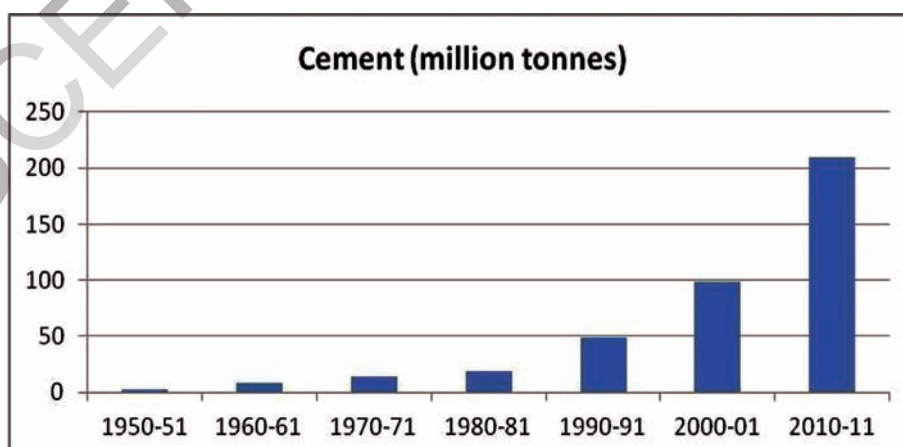
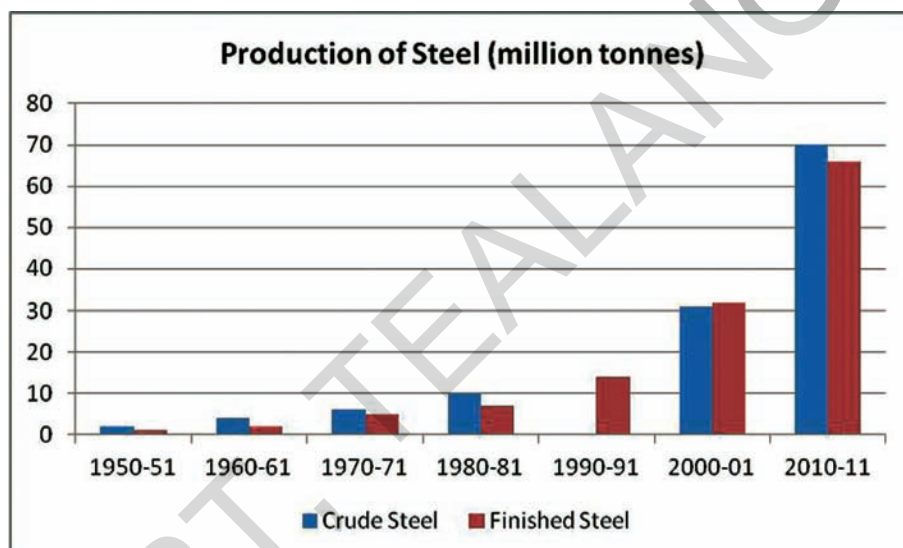
Another important goal of industrial policies in India was to generate employment opportunities in industrial activities. Raising the proportion of people employed in factories is also generally seen as an important indicator of economic development of a country. Many laws were enacted in India to streamline industries so that they provide better salary to workers, provide safety to workers at the workplace and ensure health and medical benefits. It was envisaged that more and more industries would get established and most workers would earn better incomes in due course. This did not happen in India. Even after seven decades of Indian Independence, the share of employment in industrial sector has not gone up as much as expected. A large section of workers without having required skills and training are employed in small industrial units which generally pay a very low salary and are devoid of safe working conditions and health benefits.

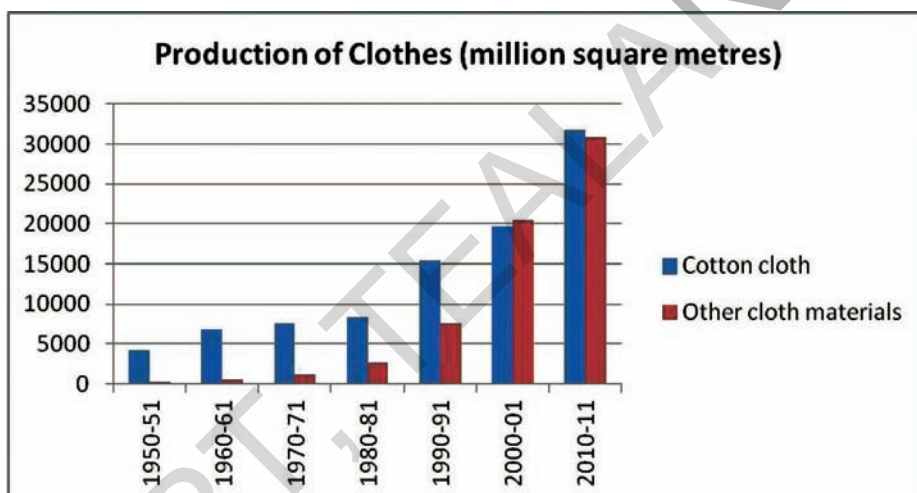
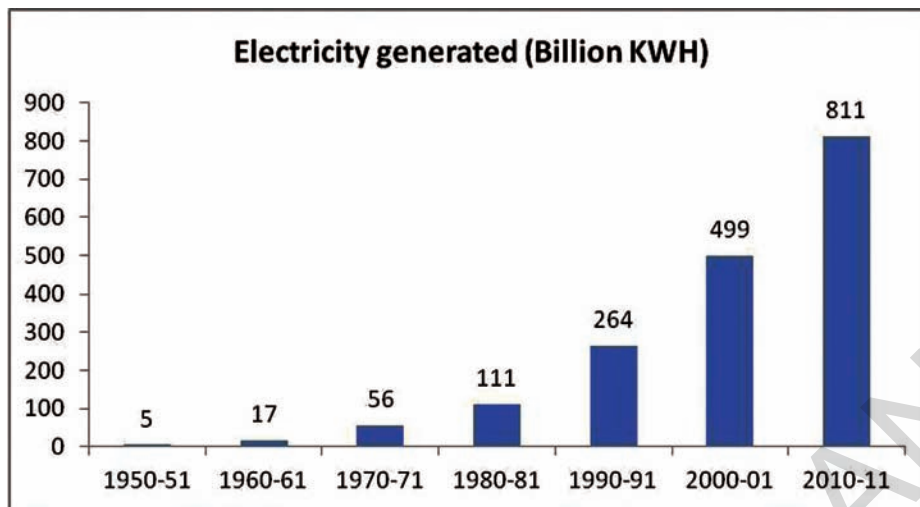
In contrast to the expectation, large industries began to replace workers with technology. More and more automation has taken place. This has led to almost zero additional employment in large factories.

- What are the differences in employment in the three kinds of economic activities that you notice from these pie charts?
- What is the percentage of change in employment by industry?
- Discuss with your teacher: Did we expect to see a greater change in employment by industry that did not happen?

Production of factory-based goods has increased over the years

You may recall that establishing basic industries was the first step that Indian leaders took to industrialise India. Establishment of those industries resulted in increased production of these goods. Look at the following charts.





It was not only the production of steel, cement and other important raw materials that increased tremendously over the last six decades. This also resulted in the production many other intermediate and consumer goods. Look at the following table which show the number of different transport vehicles, pump sets produced in India. You will notice that each good serve different purpose. Draw four separate bar diagrams and discuss in the class the probable impact of the increased production of each of these goods.

Table 3: Production of transport vehicles and pumps, 1950-2011

Year	Commercial vehicles (million)	Motor cycles (Million)	Pumps (power driven) (million)	Tractors (million)
1950-51	9	-	35	-
1960-61	28	1	105	-
1970-71	41	97	259	-
1980-81	72	447	431	71
1990-91	146	1843	19	142
2000-01	152	3756	482	284
2010-11	753	10527	3139	465

1. Can you point out some examples of increase in production of goods that are used in the production of many products by different factories?
2. What has been the increase in production of cloth over the past 30 years? What would be the impact of this? Discuss in your class.
3. Refer the chart that shows the production of cement and steel. Draw a table to show the increase from 1980-81 to present times. Discuss some positive and negative effects of this increase in production.

Increase in the environmental problems and pollution

The production process in industries involves the use of electricity and application of different chemicals. In the course of production, these industries release a lot of other materials. These residual materials are causing pollution in the industrial locations. One such instance is given in the biological science textbook in chapter X of Class IX.



Keywords

1. Colonial rule
2. Consumer goods
3. Infrastructure facilities
4. Basic goods industries
5. Self sufficiency
6. Per capita consumption
7. Liberalisation

Improve your learning



1. Why did the government take up the responsibility to set up basic goods industries?
2. Why are industries located in specific areas?
3. What are the basic goods industries? How are they different from consumer goods industries?
4. Give a list of towns / areas in which some conventional mineral resources are found and identify the possible industries which can be set up.

Sl. No.	Minerals/ Resources	Towns/areas in which these resources are available	List the kind of industries that can be set up in this area
1	Iron ore		
2	Coal		
3	Jute		
4	Crude oil		
5	Natural Gas		
6	Forests		
7	Manganese		
8	Bauxite		

5. Why did the government in 1990s allow private industries in many areas which were earlier restricted only to government?
6. What is the impact of industrial development on employment generation and on revenue?
7. 'Industrial activities increase environmental problems.' Discuss.
8. Write a few slogans on the prevention of environmental pollution.
9. Read the paragraph 3 on page 83 and comment on it.
10. Observe the map given on page 95 and locate the iron and steel plants in the outline map of India.

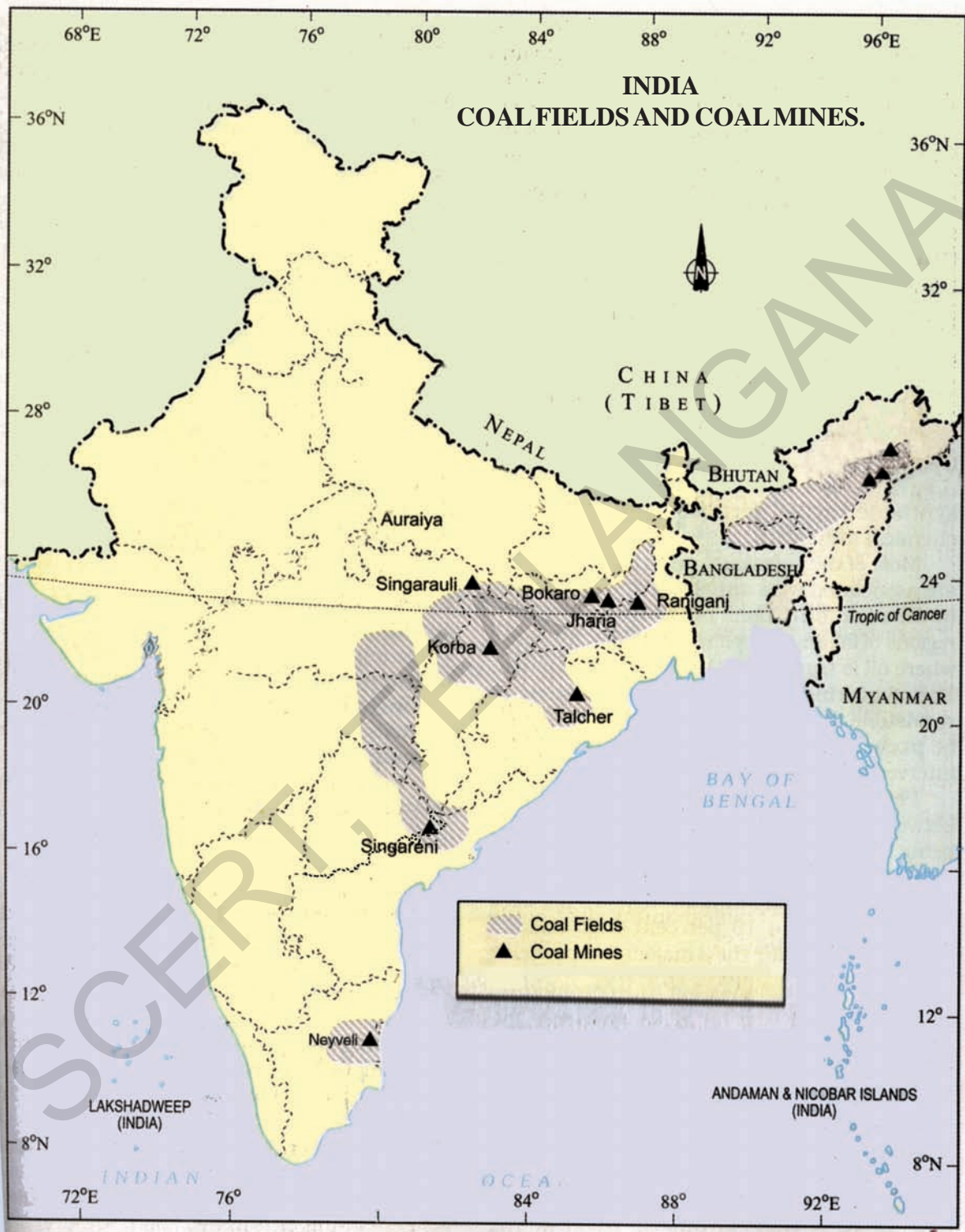
Project

Select one agro-based and one mineral based industry in your area.

- (i) What are the raw materials they use?
- (ii) What are the other inputs in the process of manufacturing that involve transportation cost?
- (iii) Are these factories following environmental norms?











In the previous chapters, you read about two important productive activities – agriculture and industries in India. Service activities constitutes the other major sector. What is a service activity? What is the nature of service activities in India? How are they important for the country and what are the challenges that we face? In this chapter, we will try to answer these questions.

What is a service activity?

1. Sarojini is a doctor working in a hospital. She goes around the wards, examines patients, prescribes medicines and monitors their progress. What exactly does Dr. Sarojini produce? In terms of commodities – nothing. But in terms of services, she is helping the patients to recover and to achieve good health.
2. Soundarya sells groceries. This shop has been set up in the front portion of her house. She opens the shop after sending her children to school and manages it till late night. Her husband helps her in buying all the grocery items from wholesale shops in the town. As a trader, she is providing a service or doing the work of providing the products to the consumers.
3. Ramesh works as an accountant in a company. He has to check accounts, verify payments and receipts, and ensure that the accounts tally with the bills. Writing and maintaining accounts is a service or work that all business organisations require.
4. Sampath has a mini-van. Every morning he goes to the fish market. Many women buy fish from the fish market and use Sampath's mini-van to travel to their locality. He collects payments for transporting fish from the market to different places.

All four – Sarojini, Soundarya, Ramesh and Sampath are engaged in service activities. You will find that their activities are different from farmers, agricultural labourers or industrial workers. (Refer to Venkatapuram, Class VI or paper mill and industrial workers, Class VII).

They are not producing something tangible like paddy or cloth. They are, however, doing work that people and businesses require in the form of specialised services. Service here refers to the nature of work done. This is in contrast to or different from producing a good. 'Service' in this context of work doesn't mean something that is done free of cost or out of love and devotion. All the above mentioned people earn money through this work. This is their livelihood.

Service activities are crucial and required for agriculture and industrial activities as well. What would happen to paddy and vegetables if bullock carts, trucks and buses were not there to provide transport? How can one build buildings if there are no railways to transport cement bags from factories to sales outlets located in towns and cities? Even after these goods reach the market, there should be a group of people who buy them and either sells directly to consumers or to other producers such as rice mills, oil mills etc. This means that trading activity also constitutes a major segment of service activities.

Working people engaged in service activities do not produce a commodity, like these in agriculture or in industry. They do special kind of activities that help agriculture and industry and also provide a lot of other services that people require. Another example is the banking and finance related service activities required by people and business organisations. You had read about this in Class VIII chapter “Money and Banking”. Similarly, there are telecom, internet and all other types of communication service providers

There are eight categories of service activities given below. Some details are filled in, others have been left blank. Fill in the blank ones after discussing with your teacher.

1. **Education:** Institutions – schools, colleges, universities, technical institutions. This means people working in these institutions such as teachers, administrative staff and their activities.
2. **Health and Medical Services**
3. **Trade:** A variety of buying and selling activities, both wholesale and retail, that we see around us.
4. **Public Administration:** Public services under village and town panchayats, state and central governments come under this category. Examples: people who work in police stations, workers of various government departments such as village administrative officers, revenue inspectors, tahsildars, Collectors, those who work in all kinds of courts, assistants, clerks, accountants, typists, peons, drivers etc.
5. **Defence:** Activities and people involved in the armed forces like army, navy and air force.
6. **Financial activities:** Banks and
7. **Personal Services:** Workers who do domestic work, laundry, cleaning, provide services like dyeing, hair dressing, beauty parlours, tailoring shops, photo and video studios.

8. Activities such as : People working in entertainment and information technology industry – production of films, TV serials. Those working in media, newspapers, television channels and advertisement agencies are also included in services.

Importance of the service sector and some challenges

In developing countries like India, developmental initiatives involve setting up of many establishments. This includes expansion of infrastructure facilities and other services. Refer to the two employment charts in the previous chapter. Service activities constitute about one-fourth of all the jobs people do in India. How are service jobs expanding? One possible reason could be due to improvement in the general well being of the people. When people earn better incomes, the way they spend their income also undergoes changes. They tend to spend more on service-oriented activities such as education, entertainment, eating out and tourism. Let's examine some of the factors responsible for increase in the importance of service sector the recent year.

Changes in technology and exports of services

The continuously changing technology is one of the major driving forces in the service sector. Since the early 1990s, there has been a tremendous change in the communication technology about which you have studied in Class VIII. Business Processes Outsourcing (BPO) has brought in new kinds of employment opportunities for many young people. BPOs employ people located in India but they provide services to people located across the globe using telecommunication links. Many Information Technology companies established in metropolitan cities employ highly skilled engineers that provide specialised software services to companies all over the world. They get projects from these companies abroad.

The entertainment industry creates jobs in various print and electronic media firms, films, cable television channels etc. It is common to find internet cafes and public telephone



Fig. 8.1: Call Centre

booths in most of the cities and towns. The advertising industry has also created new job opportunities. Many new activities have emerged in banking and insurance sectors. All these are possible now due to change in technology.

Modern service industries such as IT, financial, legal and accounting services require modern technologies and skilled labour. Growth of employment opportunities in these sectors, especially for rural youth, will depend on public investment in education and rural infrastructure.

There are many 'call centers' in big cities. If a resident of London wants information about her bank deposits or her hospital records, she may get it from such a 'call center' located in India.

I am working as a specialised software engineer for the last 3 years. My company has 120 employees on its pay roll and has a sales figure of about Rs.50 crores. Four friends started this company together seven years ago. Many of our colleagues regularly go abroad for providing various support services and consultancy. I'm paid a good salary but also expected to work very long hours.

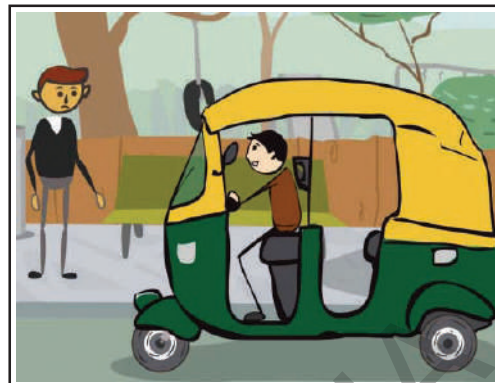
New forms of organisation : Outsourcing

Due to changes in technology and stiff competition in the industrial sector, many industries have diverted a major section of their activities to service sector. They don't engage in these activities themselves but get it done from 'outside'. For example, until a few years ago, if any company employed security staff, they used to recruit people and pay their salaries from the company's pay-roll. Now-a-days, in order to reduce the cost and avoid paying additionally for health, pension and provident fund benefits to workers, a large number of industries outsource security services to security agencies. Many manufacturing companies also outsource research and development, accounting, legal services, customer service, public relations etc.

Employment in low income service sector

Closure of many industries, particularly textiles and other industries, has forced workers of these factories to work as small vendors, watchmen and other low income service professions. This shift has created unemployment in the urban areas. People from rural areas come to work in the city but there are not enough employment opportunities in urban areas. So, they either go back to agriculture sector or land up in many unskilled low earning employment opportunities in services.

I am an autorickshaw driver. I came to Warangal more than 10 years ago. I ply the autorickshaw during the day and stay on the roadside at night. Every evening, I have to pay rent to the owner. My earnings from cycle rickshaw are not regular. On some days, I earn Rs.250 and on other days, I get hardly 100-150 rupees. These days, there's more competition and the number of cycle rickshaws in this area is increasing.



- The following table shows the number of workers (in lakhs) employed in different service activities in large enterprises in 1991 and 2010. Read the table carefully and answer the questions that follow.

Service sector activities	Government jobs		Private jobs	
	1991	2010	1991	2010
Wholesale and retail trade	1.5	1.7	3.0	5.1
Transport, storage and communications	30.3	25.3	0.5	1.7
Finance, insurance, real estate etc.	11.9	14.1	2.5	15.5
Community, social and personal services	92.3	90.5	14.9	21.4

- Which service activity gave maximum employment in 2010?
- Has the number of government jobs increased or decreased over the years? What kind of jobs has government generated the most during this period?
- What kind of jobs were people able to get in the private service activities?
- Are there any differences between jobs provided by the government and private employers? Discuss.

Stress in jobs in Information Technology

Many young people dream of becoming a software engineer these days. Although these service jobs bring a lot of income to families but at the same time, bring stress in the work place due to monotony, short deadlines, night shifts and so on. Read the following statement of an IT professional.



My lifestyle has improved due to IT. In college, I had just two trousers and two shirts. Now, I have many shirts. I buy good quality clothes and I don't have to think about how much I spend. So definitely, working in the software industry has added comfort to my life. Earlier, there were a lot of financial problems in the family— my brothers and sisters were not able to study properly due to this, and I am very

happy that I have been able to solve this problem. But it is a stressful and mechanical life; there is no social life. In my hometown, people were always there around me—neighbours and relatives. There was always someone to go and talk to but here, it's difficult to make friends.

Desired service today

In recent times, there has been some debate about expansion of service activities that we need to understand. Read the two case studies and answer the questions that follow.

Case Study 1: Foreign Direct Investment in Retail Sector

According to India's new FDI Policy of 2012, foreign companies can now set up retail shops to sell goods in India. While a few people are supporting this new policy, many others are arguing against this policy. Those who are critical about it argue that the small farmers and producers may initially find it attractive to sell their produce directly to the large foreign supermarkets but these foreign investor companies will sooner or later misuse their power to buy this produce in large quantities and compel the farmers to sell them at very low prices. About 20-40% of agricultural goods are wasted due to lack of proper storage facilities. This is not a small quantity which can be neglected when it comes to improving the living conditions of farmers. This wastage can be minimized only if the government establishes state of the art storage facilities which only MNCs have today. The idea that supermarkets will minimize the wastage of farm produce through investment in storage facilities is not persuasive on two counts: the alleged wastage of farm produce is exaggerated, and the big retailers have, in fact, not invested as much as they were expected to do in storage facilities. Moreover there will be loss of jobs in traditional, smaller retail. FDI will drive out smaller retailers, resulting in the concentration of market power in the hands of a few.

The supporters argue that there will be gainers and losers from FDI in retail, but the overall gains will outweigh the losses. Moreover, in the course of time, the losers too will benefit. They argue that large and medium sized farmers will initially benefit the most, while the small farmers or landless labourers will be the losers. However, the purchases by the big supermarkets will increase the demand for agricultural products, which in turn will increase the agricultural output ... which in turn may increase the demand for labour. This will increase agricultural wages in the long run.

You may recall what you read in class VI about how paddy wholesale traders earn their profit from farmers by lending money and taking their produce in return at lower prices than those prevailing in the markets. The foreign retailer may also enter into an interlinked contract with farmers, and at a lower interest rate than charged by the moneylenders. This too is not a desirable state of affairs for the farmer, but a lesser evil: MNCs can purchase more of the produce due to better

- What do you think? Can the government do something to address this issue?

storage facilities and this will be more beneficial to farmers than what they have to put up with moneylenders.

Case Study 2: India faces an acute shortage of skilled human resources in the health sector, says a recent report

India faces an acute shortage of over 64 lakh skilled service professionals in the health sector with Uttar Pradesh alone accounting for a shortfall of 10 lakh allied healthcare professionals, according to a study. The density of doctors in India in 2011 was six for a population of 10,000, while that of nurses and midwives was 13 per 10,000 persons. India has a doctor to population ratio of 0.5:1000 in comparison to 0.3 in Thailand, 0.4 in Sri Lanka, 1.6 in China, 5.4 in the U.K., and 5.5 in the U.S.

There is also a gap of 20 lakh dental assistance-related technologists, 18 lakh rehabilitation-related workforce, 9 lakh miscellaneous health workers and 9 lakh surgery and anaesthesia-related professionals. There is also a shortage of around 2.4 lakh medical technologists, 2 lakh surgical and intervention technology-related health professionals, 1.3 lakh ophthalmology-related workers, 62,000 medical laboratory professionals.

The shortfall of different medical professionals has resulted in the uneven distribution of all cadres of health workers, medical and nursing colleges, nursing and ANM (Auxiliary Nurse and Midwife) schools, and allied health institutions across the States with wide disparity in the quality of education. The uneven distribution of professional colleges and schools has also led to an imbalance both in the production capacity and in the quality of education and training, leading to poor health outcomes. By empowering allied health professionals or paramedics, as they are known at present, they can be the leaders of change, playing critical role in improving the reach of health services to underserved areas.

- What is your opinion about foreign companies setting up retail shops in India? How do you think can they generate employment in India?
- Talk to some retail shop owners in your neighbourhood. Discuss their opinions on foreign retailing shops in your class.
- Prepare a table with two columns and list out the advantages and disadvantages of allowing foreign retail stores in India.
- Why is it necessary to establish more medical institutions in India?
- Who, in your opinion, should set up new medical institutions – private sector or government? Why?

To sum up, in this chapter, we have looked at the importance of service activities and how they contribute to economic development of the country. India is required to shift people from agriculture to industry and service jobs. This means the sufficient number of jobs will have to be generated. More and more factories should be established and infrastructure such as roads, hospitals, educational institutions are to be set up. We need more good quality roads and other transport facilities, storage facilities, credit facilities. Many industrial activities are now dependent on the service activities to face the competition. New economic policies in India are also giving emphasis to expansion of service activities.

Keywords

1. Call centers
2. Service activities
3. Outsourcing
4. Information Technology
5. Economic development
6. Retail trade

Improve your learning



1. What is meant by the term 'service activities' ?
2. List five service activities and give your reasons for why they can not be considered as either agricultural or industrial activities.
3. How can service activities help in the overall development of a country?
4. How are agricultural and industrial activities related to services?
5. 'The growth of service sector is sustainable and can make India a rich country'. Do you agree with this statement? Elaborate.
6. Why are service sector activities becoming important?
7. Service activities cannot expand beyond a level without agriculture and industries. Explain.
8. How can service sector reduce educated unemployment in India?
9. Is there any migration of labourers from your area? Find out the reasons for the migration.
10. Read the 9th paragraph of this chapter 'Working People engaged' and answer the following:
What are the service activities required for agriculture and industries?
11. Observe the map given on page 104. Locate the software technology parks of our country in the outline map of India.

Project

Talk to any seven working people and identify in which sector they are employed in. Write a brief note or design a poster about their work. What relationship do you see between their employment and place of residence?

Sl. No.	Name of the person	Nature of work done	Agriculture/ Industry/ Services
1			
2			
3			
4			
5			
6			
7			

Explain your reason for the classification.





Credit in the Financial System

CHAPTER 9

In Class VIII, you read about money and different kinds of accounts in a bank. You may be aware that people borrow money from various sources like friends, relatives, money lenders, banks etc. Agricultural labourers usually borrow money from their employers and work for less than market wages. Different kinds of credit arrangements are an important component of the financial system of a country and play a crucial role. In this chapter, we will read about the different aspects of the credit system.

Bank deposits as money

Modern forms of money include currency - paper notes, coins and bank deposits. You read about them in Class VIII.

Banks accept deposits and also pay an amount as interest on the deposits. In this way, people's money is safe with the banks and also earns an interest. People have the right to withdraw the money as and when they require. Since the deposits in the bank accounts can be withdrawn on demand, these deposits are called demand deposits.

Demand deposits offer another interesting facility. It is this facility which lends it the essential characteristics of money (that of a medium of exchange). You have read of payments being made by cheques or by electronic means instead of cash. Since one can withdraw money in cash or make payments by cheque, it makes these deposits work like any other form of money such as currency notes. Since demand deposits are accepted widely as a means of payment, along with currency, they constitute money in the modern economy.

You must remember the role that the banks play here. But for the banks, there would be no demand deposits and no payments by cheques against these deposits. The modern forms of money - currency and deposits - are closely linked to the working of the modern banking system.

- Why are demand deposits considered as money?
- Are the deposits kept at the bank also insured by the government? Find out the details.
- Do you think that fixed deposits that people keep with banks would easily work like money? Discuss.

This entire system is supervised by the government's Reserve Bank of India so that the promise made by the banks to honour withdrawals in cash or payment by cheque is always kept. The government has to ensure that people's trust in the money kept with the banks in the

form of demand deposits or as fixed deposits is always maintained and their money is available for use and accepted by all. The Reserve Bank issues guidelines for this system and examines its working so that people's trust is maintained. Similarly, the government has to ensure that the supply of notes and coins is in adequate amount and in good condition, so that people don't face problems in the currency being used.

Loan Activities of banks

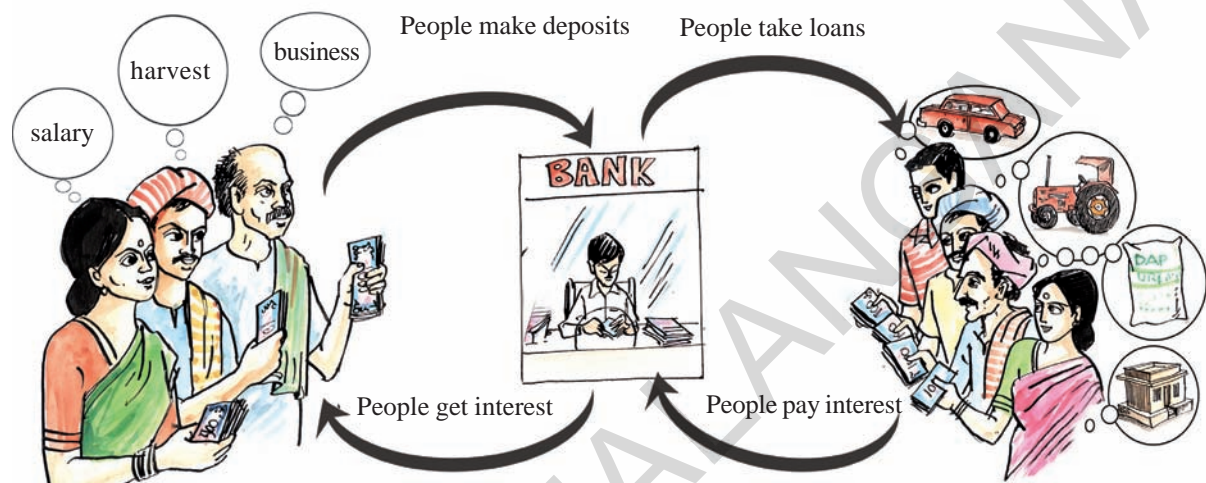


Fig 9.1 : Circular flow of money - through a bank

What do the banks do with the deposits which they accept from the public? There is an interesting mechanism at work here. Banks keep only a small proportion of their deposits as cash with themselves. For example, banks in India these days hold about 15 percent of their deposits as cash. This is kept as provision to pay the depositors who might come to withdraw money from the bank on any given day. Since, on any particular day, only some of its many depositors come to withdraw cash, the bank is able to manage with this cash. This is how banking started because banks all over the world found that they could keep their promise of paying cash on demand by keeping only a small fraction of the money in cash.

Banks use the major portion of the deposits to extend loans. There is a huge demand for loans for various economic activities. We shall read more about this in the following sections. Banks make use of the deposits to meet the loan requirements of the people. In this way, banks mediate between those who have surplus funds (the depositors) and those who are in need of these funds (the borrowers). Banks charge a higher interest rate on loans than what they offer on deposits. The difference between what is charged from borrowers and what is paid to depositors is the primary source of income for banks.

- What would happen if all the depositors went and asked for their money at the same time?
- Talk to someone who has taken a bank loan. What was the purpose and how did he/she approach the bank?
- Interview a bank manager. What are the different loans that they have given? Are there any activities for which they would not give loans?
- Apart from banks people keep deposits in other institutions such as housing societies, companies, post office schemes etc. Discuss how is that different from bank deposits?

Why people require credit

Compared to the past, people's need for credit has increased. This may be due to a variety of reasons. In agricultural practices, earlier most of the inputs were supplied by the farmers themselves. They used their own cattle for ploughing and took help from family members for sowing seeds and manuring their farms. The new farming practices require substantial amount of cash in hand – to buy seeds, fertiliser, pesticides etc. and to pay for ploughing, threshing, harvesting and hired workers.

The increased availability of consumer goods in the market and

arrangements for finance has also increased the variety of credit arrangements. We get a variety of goods – ranging from essential food grains to utensils, home appliances and furniture etc, on credit now a days. Manufacturers and sellers of these goods encourage people, particularly those with regular monthly incomes and having bank accounts, to buy on credit and pay in monthly installments. For example, if you purchase a television for Rs.20,000, you can pay Rs.5000 initially and pay the rest every month over one or two years. People also borrow money to make the payment of school/ college fees and for health services. One of the major reasons for indebtedness is the need to borrow for medical requirements.

As business and trade increases, people's requirement of loans also increases. A substantial part of a business is financed by borrowings from various sources. The idea is to earn more than what they have to pay as interest. How does this work? We would examine this through the examples given below.

Two Different Credit Scenarios

It is festive season two months from now and the shoe manufacturer, Anil, has received an order from a big trader in town for 3,000 pairs of shoes to be delivered in a month's time. To complete the production on time, Anil has to hire a few more workers for stitching and pasting work. He has to purchase the raw materials. To meet these expenses, Anil obtains loans from two sources. First, he asks the leather supplier to supply leather now and promises to pay him later. Second, he obtains a loan in cash from the trader as advance payment for 1000 pairs of shoes with a promise to deliver the whole order by the end of the month.

At the end of the month, Anil is able to deliver the order, make a good profit, and repay the money that he had borrowed.

A large number of transactions in our day-to-day activities involve credit in some form or the other. Credit (loan) refers to an agreement in which the lender supplies the borrower with money, goods or services in return for the promise of future payment. Ali borrows money on credit to meet the need for working capital for production. The credit helps him to meet the ongoing expenses of production, complete the production on time, and thereby increases his earnings. Credit therefore plays a vital and positive role in this situation.

Swapna, a small farmer, grows groundnut on her 3 acres of land. She takes a loan from the moneylender to meet the expenses of cultivation, hoping that her harvest would help repay the loan. Midway through the season, the crop is hit by pests and the crop fails. Though Swapna sprays her crops with expensive pesticides, it makes little difference. She is unable to repay the money to lender and the debt grows over the year into a large amount. Next year, Swapna takes a fresh loan for cultivation. It is a normal crop this year. But the earnings are not enough to cover the old loan. She is still caught in debt. She has to sell a part of the land to pay off the debt.

In the rural areas, the main demand for credit is for crop production. Crop production involves considerable costs of seeds, fertilizers, pesticides, water, electricity, repair of equipments, etc. There is a minimum span of three to four months between the time when the farmers buy these inputs and when they sell the crop. Farmers usually take crop loans at the beginning of the season and repay the loan after harvest. Repayment of the loan is crucially dependent on how good the crop was and subsequently, the income generated from farming.

In Swapna's case, the failure of the crop made loan

- Fill the following table:

	Ali	Swapna
Why did they need credit?		
What was the risk?		
What was the outcome?		

- Supposing, Ali continues to get orders from traders. What would be his position after 6 years?
- What are the reasons that make Swapna's situation so risky? Discuss the following factors: pesticides, role of moneylenders and climate.

repayment impossible. She had to sell part of the land to repay the loan. Instead of being helpful for Swapna to improve her earnings, the credit left her worse off. This is an example of what is commonly called debt-trap. Credit in this case pushes the borrower into a situation from which recovery is very painful.

In one situation, credit helps to increase earnings and therefore, Anil is better off than before. In another situation, because of the crop failure, credit pushes Swapna into a debt trap. She is clearly in a trouble some situation than before. Whether credit would be useful or not, therefore, depends on the risks in the situation and if there is some support in case of loss.

- People also require credit for consumption and to manage many socio-cultural situations. Marriages require a huge expenditure on both bride and groom's side which compel families to borrow. Do you think there are other reasons for people borrowing money in your area? Find out from your parents and teachers and discuss in the class.

Terms of Credit

Every loan agreement specifies an interest rate which the borrower must pay to the lender along with the repayment of the principal. In addition, lenders may demand collateral (security) against loans. If the borrower fails to repay the loan, the lender has the right to sell the asset or collateral to obtain payment. Property such as land titles, bank deposits, gold are some common examples of collateral used for borrowing.

Collateral

Collateral is an asset that the borrower owns (such as land, building, vehicle, livestock, bank deposits) and uses this as a guarantee to a lender until the loan is repaid.

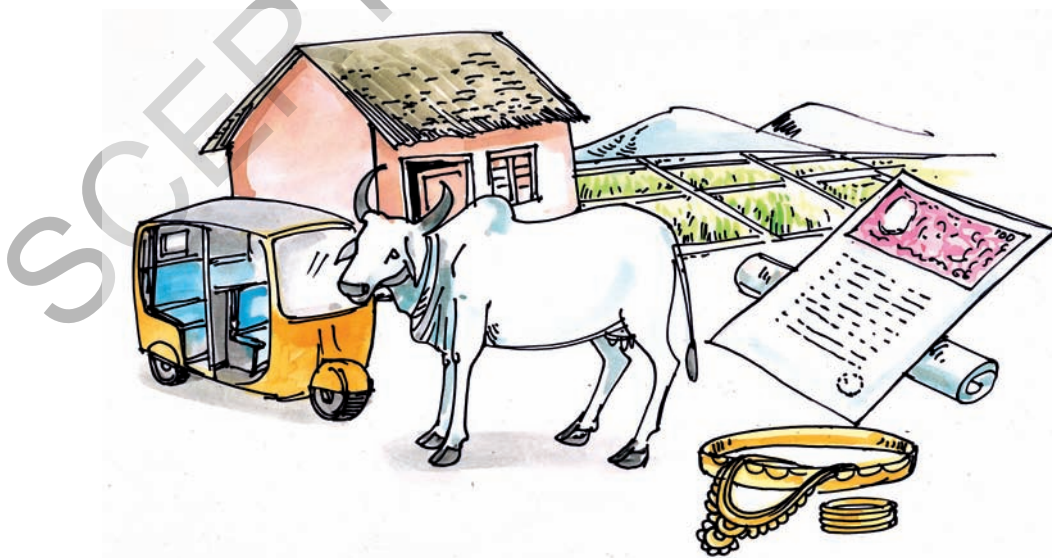


Fig 9.2 An immovable or movable property as collateral

Sivakami, a teacher has taken a loan of Rs. 5 lakhs from a bank to purchase a house. The annual interest rate on the loan is 12% and the loan is to be repaid in 10 years in monthly instalments. She had to submit the documents showing her employment records and salary before the bank agreed to give her the loan. The bank retained the papers of the new house as collateral, which will be returned to Sivakami only when she repays the entire loan with interest.

Interest rate, collateral and documentation requirement and the mode of repayment together comprise of what is called the terms of credit. The terms of credit vary substantially from one credit arrangement to another. Depending on the nature of the lender and the borrower, the terms of credit vary. The next section will provide examples of the varying terms of credit in different credit arrangements.

- Why do lenders ask for collateral while lending?
- How does the demand for collateral affect a poor person's capacity to borrow?
- Fill in the blanks choosing the correct option from the brackets:

While taking a loan, borrowers look for easy terms of credit. This means _____ (low/high) interest rate, _____ (easy/tough) conditions for repayment, _____ (less/more) collateral and documentation requirements.

Variety of Credit Arrangements: Example of a Village

Vasu is a small farmer and he needs loans for cultivation on his 1.5 acres of land. For the last few years, he has been borrowing from an agricultural trader in the village at an interest rate of 3% per month i.e 36 % per year. At the beginning of the cropping season, the trader supplies the farm inputs on credit, which is to be repaid when the crops are ready for harvest.

Besides the interest charged on the loan, the trader also makes the farmers promise to sell the crop to him. In this way, the trader can ensure that the money is repaid promptly. Also, since the crop prices are low after the harvest, the trader is able to make a profit by buying the crop at a low price from the farmers and then selling it later when the price has risen.

Arun is a farmer and has 7 acres of land. He is one of the few persons to receive a bank loan for cultivation. The interest rate on the loan is 10% per annum and can be repaid anytime within 3 years. Arun plans to repay the loan after harvest by selling a part of the crop. He then intends to store the rest of the crop in a ware house in the nearby town and apply for a fresh loan from the bank against the cold storage receipt. The bank offers this facility to farmers who have taken crop loan from them.

- List the different sources of credit in the above examples.
- Underline the various uses of credit in the above passages.
- Can everyone get credit at a cheap rate? If not, we can?
- Tick the correct option(s):
 (a) Over the years, Rama's debt
 - will rise.
 - will remain constant.
 - will decline.
 (b) Arun is one of the few persons to take a bank loan. One reason for this is
 - He is an educated person.
 - Banks demand collateral which everyone cannot provide.
 - Interest rate on bank loans is the same as the interest rate charged by the traders.
 - There is no documentation work required for getting bank loan
- Talk to a few people to find out the credit arrangements that exist in your area. Record your conversation with them. Are there any differences of opinion in the terms of credit?

Rama is an agricultural labour working in a neighbouring field. There are several months in the year when Rama has no work and needs credit to meet the daily expenses. Expenses on sudden illnesses or functions in the family are also met through loans. Rama has to depend on her employer, a landowner, for credit. The landowner charges an interest rate of 5% per month. Rama repays the money by working for the landowner. Most of the time, Rama has to take a fresh loan before the previous loan has been repaid. At present, she owes the landowner Rs. 5,000. Though the landowner does not treat her well, she continues to work for him since she can get loans from him when in need. Rama tells us that the only source of credit for the landless people is the landowner-employers.

- Fill the following details for Sivakami, Arun, Rama and Vasu.

Particulars	Sivakami	Arun	Rama	Vasu
Loan Amount (in Rupees)				
Duration of loan				
Documents required				
Interest rate				
Mode of repayment				
Collateral				

Formal and informal sources of credit in India

In the above examples, we saw that people obtain loans from various sources. The various types of loans can be conveniently grouped as formal and informal loans. Among the formal loans, the loans are from banks and cooperatives, the informal loans include loans from money lenders, traders, employers, relatives and friends etc. In the pie-chart, you can see the various sources of credit to rural households in India. Out of every 100 rupee credit required by rural families, Rs.25 was available from commercial banks. Besides banks, the other major source of cheap credit in rural areas is the cooperative societies (or cooperatives). There are several types of cooperatives such as farmers' cooperatives, weavers' cooperatives etc. You will also notice that money lenders are an important section of informal credit providers in India.

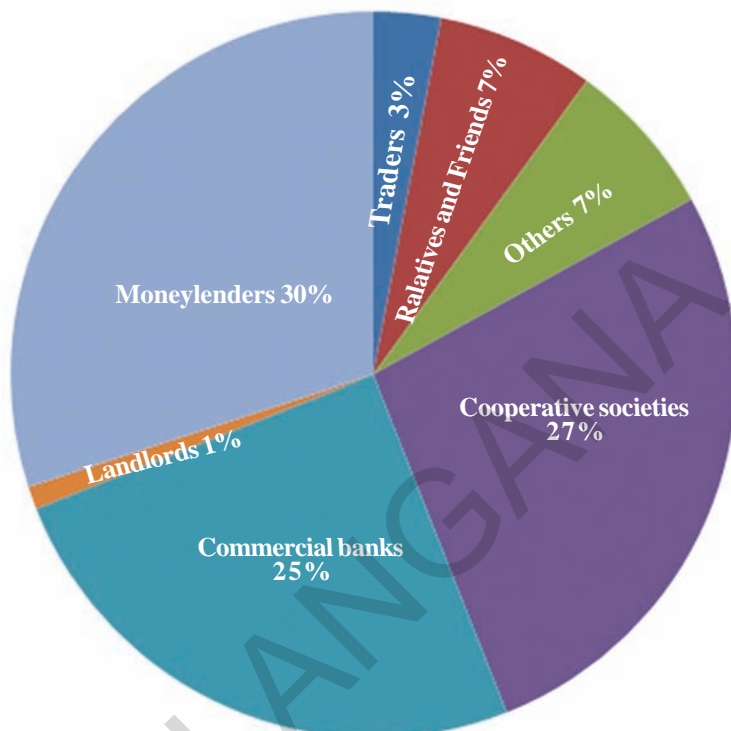


Fig 9.3: Sources of credit for rural Households in India in 2003

From the data given above (fig. 9.3) complete the following table and discuss the changes that one can observe from 1961 till date.

Credit Sources	Source of credit (in %)			
	1961	1971	1981	2003
Cooperatives and Commercial banks	10.3	24.4	58.6	?
Government and other formal sources	5.5	7.3	4.6	?
Total of formal organisations	?	?	?	?
Moneylenders	62.0	36.1	16.1	?
Traders	7.2	8.4	3.1	?
Landlords	7.6	8.6	4.0	?
Relatives and friends	6.4	13.1	11.2	?
Other sources	0.8	2.1	2.4	?
Total of informal organisations	?	?	?	?
Total percentage	100.0	100.0	100.0	100.0

New Initiatives

The RBI has been taking steps for improving the financial access to people in rural areas. Banks operate in rural areas either through branches or through Business Correspondents (BCs). A Business Correspondent is an approved bank agent providing basic banking services using a Micro ATM (terminal). These Business Correspondents encourage people in rural and remote areas to open bank accounts, save money and also use loan facilities provided by the banks. Bio-metric smart card identification systems are used to open these accounts.

Aadhaar Enabled Payment System (AEPS) :

- *AEPS* is a new payment service offered by the National Payments Corporation of India (NPCI) to banks, financial institutions using 'Aadhaar' number and online UIDAI authentication through their respective Business Correspondent service centres.
- The customer needs his/her bank account linked to their Aadhaar number with the bank offering the AEPS service.
- A customer can at present avail the following four services using *AEPS* through the micro-ATMs at BCs:
 - a. Cash Withdrawal
 - b. Cash Deposit
 - c. Balance Enquiry
 - d. Fund Transfer

The RBI ensures that the banks give loans not just to profit-making businesses and traders but also to small cultivators, small scale industries, to small borrowers etc. Besides RBI, National Bank for Agricultural and Rural Development (NABARD) is another organisation that facilitates formal credit organisations in rural India.

Even though the amount of bank loans given for agriculture have been increasing in recent years, a considerable section of farmers still do not have access to bank credit. In 2011, there were 14 crore farmers in India. Out of this, only about 5.3 crore farmers had agricultural loan accounts. This means that more than two-third of farmers do not have access to bank loan facilities. These nearly 9 crore farmers have to rely on informal sources of credit such as money lenders and traders. They charge exorbitant rates of interest as you have seen in the earlier examples.

Formal and Informal Credit: Who gets what?

There is no organization that monitors and regulates the credit activities of lenders in the informal sector. They are able to lend at whatever interest rate they can force upon the people.

There are some major differences between the way formal and informal

credit providers operate in India. The formal credit providers follow certain rules and regulations framed by government and in particular, the RBI, and they also expect their clients also to follow certain procedures. However, informal credit providers do not follow such government rules and they evolve their own procedures. Formal credit providers also have to match certain expectations of government which is not required for the informal credit providers. When the borrower is unable to repay as per the agreed terms, formal

credit providers cannot use any illegal ways to get back the credit, whereas informal credit providers use many coercive and illegal ways of getting the money back which at times leads to borrowers committing suicides.

Compared to the formal lenders, most of the informal lenders charge a much higher rate of interest on loans. This means that the cost to the borrower of informal loans is much higher. Although many states have laws to protect its people from informal credit providers such as money lenders from charging a high interest rate, these laws are not sufficient to make the money lenders charge low interest rates but are yet to be enforced effectively.

Higher cost of borrowing means a larger part of the earnings of the borrowers is used to repay the loan. Hence, borrowers have less income left for themselves. In certain cases, the high interest rate of borrowing can mean that the amount to be repaid is greater than the income of the borrower. This could lead to increasing debt. Infact people who might wish to start an enterprise by borrowing may not do so because of the high cost of borrowing.

For these reasons, banks and cooperative societies need to lend more. This would lead to higher incomes because many people could then borrow cheaply for a variety of different needs. They could grow crops, do business, set up small-scale industries etc. They could set up new industries or engage in business activity. Cheap and affordable credit for all is crucial for the country's development.

The rich households are availing cheap credit from formal lenders whereas the poor households have to pay a heavy price for borrowing from informal sources.

- The following table shows how urban families borrow from two sources in 2003 (in percentage). Read the table carefully and fill in the blanks in the passage given.

Description of the Borrower Households	Formal Credit (in %)	Informal Credit (in %)	Total Credit (in %)
Poor Households	15	85	100
Households with few assets	47	53	100
Well-off Households	72	28	100
Rich Households	90	10	100

Source: India's Debit and Investment Survey-2003 by N.S.S.O. conducted Report No.501, Dec 2005.

The table above shows the share of formal and informal sources for people living in urban areas. The people include both rich and poor households. You can see thatper cent of the credit needs of the poor households are met from informal sources. Formal sources of credit account for onlyper cent. Compare this with the rich households. What do you find? Onlypercent of their loans are from informal sources, while per cent is from formal sources. You would find a similar pattern in rural areas.

What do all these suggest? First, the formal sector still meets only about half of the total credit needs of the rural people. The remaining credit needs are met through the

informal sources. Most of the loans from the informal lenders have very high interest rates and do little to increase the income of the borrowers. Thus, it is

- What are the differences between formal and informal sources of credit?
- Why should credit at reasonable rates be available for all?
- Should there be a supervisor such as the Reserve Bank of India that looks into the loan activities of informal lenders? Why would its task be quite difficult?
- Do you think that the low share of formal sector credit for poorer households has been one of the factors for farmer distress in our country? Discuss.

necessary that banks and cooperatives increase their lending, particularly in the rural area, so that the dependence on informal sources of credit reduces.

Second, while formal sector loans need to expand, it is also necessary that everyone receives these loans. At present, it is the richer households who receive formal credit whereas the poor have to depend on the informal sources. It is important that the formal credit is distributed more equally so that the poor can benefit from the cheaper loans.

Self-Help Groups for the Poor

In the previous section, we read that poor households are still dependent on informal sources of credit. Getting a loan from a bank is much more difficult than taking a loan from informal sources.

Bank loans require proper documents and collateral. Absence of collateral is one of the major reasons which prevents the poor from getting bank loans. They have a few assets to keep as collateral. Informal lenders such as the moneylenders, on the other hand, know the borrowers personally and hence are often willing to give a loan without collateral. The borrowers can, if necessary, approach the moneylenders even without repaying their earlier loans. However, the moneylenders charge very high rates of interest and do not reveal the terms of the transactions and harass the poor borrowers. They also have ways of linking this credit to buying the produce at a cheap rate or forcing them to provide labour.

In recent years, government and Non Government Organisations (NGOs) have tried out some new ways of providing loans to the poor. The idea is to organise rural poor, in particular women, into small Self Help Groups (SHGs) and pool (collect) their savings. A typical SHG has 15-20 members, usually belonging to one neighbourhood, who meet and save regularly. Saving per member varies from Rs. 25 to Rs. 100 or more, depending on the ability of the people to save. Members can take small loans from the group itself to meet their needs. The group charges interest on these loans but this is still less than what the moneylender charges.

After a year or two, if the group is regular in savings, the group is eligible for loan from the bank. This bank linkage enhances the loan amount available to all the members. Loan is sanctioned in the name of the group and it ensures that the loans

are paid back. The trust and pressure among the members makes this possible. Important decisions regarding the savings and loan activities are taken by the group members. The group decides the terms of credit. Also, the group members are jointly responsible for the repayment of the loan. Any case of non-repayment of loans by any one member, it is followed up seriously by other members in the group. Because of this feature, banks are willing to lend to the poor women when organised in SHGs, even though they have no collateral as such.

Collateral usually kept by banks is not necessary. These loans are meant to create self-employment opportunities for the members. For instance, members take small loans for releasing mortgaged land, for meeting working capital needs (e.g. buying seeds, fertilizers, raw materials like bamboo and cloth), for buying housing materials, for acquiring assets like sewing machine, handlooms, cattle etc.

Moreover, SHGs are the building blocks of organisation of the rural and urban poor. Not only do women become financially self-reliant, the regular meetings of the group provide a platform to discuss and act on a variety of social issues such as health, nutrition, domestic violence, etc.

- How is a loan to an SHG member different from an individual loan by a bank?
- Some SHG groups charge very high interest rates for loans to its members? Is this fair? Discuss.
- Find out: What is the role of a federation of SHG groups?

Financial Literacy

Financial Literacy is the process of equipping oneself with knowledge and information on financial matters. Taking interest in financial literacy helps one to have better financial planning, puts them in a better position to achieve their financial goals and protect oneself from frauds and debt traps. It aims to inculcate savings habits, improve the understanding of financial products leading to effective use of financial services and thus helps in better money management. Further, financial literacy facilitates easy access to financial services.

Financial literacy material is available on the website of Reserve Bank of India (www.rbi.org.in). The financial literacy material available now covers subjects such as features of genuine bank notes, know your Reserve Bank, how RBI touches the life of the common person, caution against emails/ sms offering huge sums of money from abroad, caution against providing bank account details on internet, information of loan products available from banks, why save with banks?, grievance redressal mechanism, Banking Ombudsman Scheme, caution against depositing money in un-incorporated bodies/ un-licensed entities, Deposit Insurance (Are my deposits safe in banks?, What is Deposit Insurance and Credit Guarantee Corporation) etc. Financial literacy information is available in brochures/ pamphlets prepared by RBI and other banks. Further, RBI has developed comics on financial literacy subjects for the benefit

of the school children. 'Raju and the Money Tree', 'Money Kumar and Monetary Policy' etc. are the names of the comics that can be downloaded from the RBI website mentioned above. In addition to the above, for the benefit of illiterate persons in rural, urban and remote areas, State Level Bankers Committee (SLBC), Combined Andhra Pradesh has prepared an audio CD on the benefits of saving with banks.

Financial Literacy is an important adjunct for promoting financial inclusion, consumer protection and ultimately, financial stability. Financial inclusion and financial literacy need to go hand in hand to enable the common man to understand the need and benefits of the products and services offered by formal financial institutions. In India, the need for financial literacy is even greater considering the low levels of literacy and the large section of the population that are still out of the formal financial set-up. Financial literacy has assumed greater importance in recent years as financial markets have become increasingly complex and the common man finds it very difficult to make informed decisions. Further, in view of higher percentage of household savings in our country, financial literacy can play a significant role in the efficient allocation of household savings and the ability of individuals to meet their financial goals.

Keywords

1. Demand deposits
2. Economic activities
3. Cooperative societies
4. Commercial banks
5. Informal sources of credit

Improve your learning

1. Most of the credit needs of the poor households are met through informal sources. The dependence of richer households on informal credit is less. Do you agree? Use the data given on page 114 to support your answer.
2. How are the high interest rates on loans harmful?
3. What is the basic idea behind the SHGs for the poor? Explain.
4. Talk to a banker and find out the different purposes for which people in urban areas generally take loans?
5. What is the difference between bank loans taken directly and through SHG?
6. Read paragraph 3 under the heading 'Self Help Group for the Poor' and answer the question: How are SHGs working in your area?
7. What are the services rendered by the banks in fulfilling the needs of farmers?



Project

Has there been any incident of farmers committing suicide in your area? If so, find out the reasons and make a report, discuss in the classroom by adding a few newspaper clippings related to this issue.



You would have heard people talking of the rising prices of commodities and the difficult situation they face because of price rise. Why do people appear agitated and worried with rising prices? Does this happen for most commodities or only for a few things? Does it affect everyone in a similar way? These are some of the issues discussed in this chapter.

Family Budget

Your parents earn their income by doing some work – be it farming, construction work, selling vegetables or groceries, working in an office, shop or factory etc. They buy things for the house and spend money on household requirements. At times, they have to borrow from somebody. There's always some plan for the expenditure and how they would buy what is required with the money they have. This balancing of expenditure to income is called a Budget.

Every family makes a budget – it could be written down, or done mentally. Let us take the budget of a family that sells vegetables in the vegetable market.

Table-1 Subbamma's Budget for January 2013

Receipts		Expenditure	
Earnings in a month	Rs. 10,000	Food items	Rs. 3000
Amount borrowed from relatives	Rs. 2,500	Rent	Rs. 2000
		School fees	Rs. 1500
		Medicines and doctor fees	Rs. 2500
		Bus and auto expenses	Rs. 1500
		Electricity, mobile and other expenses for daily needs	Rs. 2000
Total Receipts	Rs. 12,500	Total Expenditure	Rs.12,500

In the above table, you can, see the income received as earnings by Subbamma's family is shown on the left hand side of the account, and their expenditure on the right hand side. If you add up their expenditure it comes to Rs.12,500 - which is more than their earnings Rs.10,000! So they had to borrow

money from their relatives (Rs.2500) to cover an extra expenditure when their daughter fell ill and money was needed for medicines etc. This is shown in the second row on the left. In the same way, thousands of households prepare their budgets and adjust their consumption on the basis of the income they earn.

How changes in prices affect family budget?

Let us look at Subbamma's family budget once again. Supposing next month, their house-owner increases the rent to Rs.2500. At the same time, bus fares and petrol prices also increase, so her family now has to spend Rs.2000 per month on transport. With the new prices, their cost of living has now increased by another Rs.1000. How can her family manage this, if there is no increase in their earnings? If they have some savings, they can use that. Otherwise, they are compelled to borrow from friends or relatives. But they also have to repay them with interest isn't it?

It could also be true that if Subbamma borrows from close relatives, she need not have to pay interest. If they borrow from a money lender, she will have to repay the borrowing with some interest. If the interest Rs.3 for every Rs.100 is Rs.3 or 3% per month, Rs.75 would have to be added every month as interest. Suppose Subbamma's family is able to repay only after six months, this means, they would have to repay Rs.2500 plus Rs.450 i.e. Rs.2950.

One way for them to adjust their budget is to reduce some of their expenditure. If they cut down the number of trips in auto or reduces the purchase of some food items, money spent on mobile phone and so on, they can adjust their expenditure to their earnings with the new prices. Because they have reduced their consumption of many goods, their standard of living would fall. This is due to the increase in the cost of living.

People with fixed incomes such as pensioners or daily wage earners, manual workers, small vendors, workers in small enterprises and in private low income jobs etc. are all badly affected by continuous rise in prices over a period – called inflation. The income of these people does not change when there is inflation. So they are forced to cut down their own consumption of resources. Their standard of living is already very low; now, inflation will further reduce their consumption, which pushes them further into poverty.

People are always worried about the rise in prices because when prices increase, it affects their consumption and they have to pay more for everything. For example petrol prices increase, bus and auto fares increase, price of groceries, vegetables and milk increase, doctor's fee increase and so on.

- Tomorrow is teachers' day. Your classmates give you Rs.200 and send you to the market to buy some sweets and biscuits to celebrate this day with your teachers. When you go to the shop, you find that the price of a sweets packet is Rs.60, and a biscuit packet is Rs.20. If you buy 2 sweets packets, how many biscuit packets can you buy with the remaining money? How much should you pay?
- When you come to school, your classmates say, "Why did you buy such few packets? You should have brought 5 of each." They are surprised when you tell them the prices of sweets and biscuit packets. "Last year, we paid Rs.30 for a sweets packet and Rs.10 for a biscuit packet," one of them say.
- What has happened in the last one year? Prices of both items have gone up, and for the same amount of money, i.e. Rs.200, you can buy lesser amounts of these commodities.
- Suppose your classmates asked you to buy 5 packets of both sweets and biscuits this year also. How much would you have to pay then?
 - For 5 packets of sweets = Rs. _____
 - For 5 packets of biscuits = Rs. _____
 - Total amount you pay = Rs. _____
 - How much more do you have to pay compared to last year?
- The actual number of goods and services that money can buy is called the purchasing power of money. During inflation, real income or purchasing power of money falls. From the above example, last year you could pay Rs.200 for five of each item, but now you have to pay more to buy the same items. Or you have to buy less of both items. So:
 - Last year: Rs.200 = 5 packets of sweets + 5 packets of biscuits.
 - This year: Rs.200 = 2 packets of sweets + 4 packets of biscuits.
 - In other words, the purchasing power or the value of money of Rs.200 has fallen, because you can buy less of both items with the same money, due to the increase in their prices.

When people receive fixed income, they cannot afford to buy the same number of goods as earlier. They have to reduce their consumption, buy lesser of these goods and services. This affects their standard of living. Standard of living refers to the quantity of material goods and services that ensures a comfortable life.

The standard of living will of course differ from one type of family to another, from one type of profession to another, from one income group to another, and from one country to another. For example, having a car, television and mobile phone may not be considered as a high standard of living in United States of America but people owning these things in India would certainly be considered as people having better standard of living.

Not everyone is affected by rising prices. For some groups, this rise in price levels is compensated.

- People working in Central and State Government offices and in some organisations get an additional payment called “Dearness Allowance” or DA. When prices rise by a certain percentage, their salary also increases because the government now pays them more DA. Therefore their income also increases, along with inflation.

- People doing business activities recover the higher cost of living by increasing the prices of goods they sell. For example, if price of sugar increases, the *mitaiwallah* will increase the prices of sweets, the *chai-wallah* will increase the price of a cup of tea.

- People providing services such as dry cleaners, barbers, lawyers or doctors increase their fee when prices increase. They charge more for their services from their customers, clients or patients.

- Extremely rich people and those working in corporate sector are less affected by rising prices.

Not all working people get compensated easily for the rise in price of essential goods. For instance, it is common to see agricultural labourers, construction workers or factory workers demand their employers to raise their wages when prices increase. Sometimes, their trade unions are compelled to go on strikes to pay higher wages. On those occasions, government intervenes and negotiates with employers and workers to increase the wages. For many occupations, government also regularly fixes wages and revises them periodically after considering the changes in price of essential goods (except daily wage workers and hired workers).

How Inflation is measured?

Earlier, we had mentioned that continuous rise in prices of goods is known as inflation. But you may have observed that while some prices have increased, others have fallen. For example, the prices of mobile phone have been falling, other prices are rising. So overall, can we say that there is inflation in the country or not?

Again, supposing the price of match box increases. Does it really reduce your cost of living? Compare this with the impact of an increase in house rent, or the price of petrol or rice. Supposing the price of compact disk used in computers to save data falls, how does it affect the budget of a manual worker who may never use

a computer? If the price of an industrial machine increases, how does it indirectly affect the budget of a large number of people?

- Write down the names of some goods or services that are regularly bought by your family. Find out their price today and the price last year. What is the difference? You can ask your parents or teachers for help.

Sl.No.	Goods/Services	Price last year	Price this year	Difference
1				
2				
3				
4				

Price Index Numbers

Change in price is measured with the help of a statistical device referred to as 'price index'. Change in prices of one good does not affect all goods and services in the same way. So how do we measure the overall change in prices? One way is by using an Index Number of Prices. It is constructed in the following way:

The average price of all the goods and services selected in the first year, which is considered as the base year, is given the number 100. If, on an average, all the prices of selected goods and services rise by 25 per cent over the previous year, the price index for the second year will be 125. If, in the next year, prices of these items rise by 20 per cent of the previous year, the price index will now stand at 150 (20% of 125 + 100 = 150).

Let us understand this through an example. The following table shows the price of rice and cotton as paid by government organisations as part of MSP. Read the table carefully and answer the questions that follow.

Table-2 Price of Cotton and Rice (per quintal) during 2005-2011

Crop	2005-06	2006-07	2007-08	2008-09	2009-2010	2010-2011
Rice	Rs. 600	Rs. 610	Rs. 775	Rs. 880	Rs. 980	Rs. 1030
Cotton	Rs.1980	Rs. 1990	Rs. 2030	Rs. 3000	Rs. 3000	Rs. 3000

- Calculate the index numbers of rice and cotton by assuming 2005-06 as the base year.
- Draw a line diagram showing index number of rice and cotton. Keep the years in x-axis and index numbers on the y-axis. Discuss how the line goes up over the years.

Index numbers tell us about changes in the total of a set of items over time. They only compare these total items in one year, with the same items in another year. In this way, the price index number shows the percentage change in the prices of a set of goods from one time period to another. For instance, we can compare what has happened to our household budget this year or this month with last year or last month. The difference of price level of the two years shows the percentage by which prices have increased in one year.

It can also be used to compare the price level in one place to that of another place. We can compare the price level in Telangana with that of other states, like Karnataka, or Maharashtra.

Since there are thousands of goods and services in the economy, we have to choose which goods to include in the price index.

Price Index numbers are of different types, depending on which group of consumers we are looking at – for example, we have the Wholesale Price Index (WPI), the Consumer Price Index (CPI). While the WPI includes all goods (capital goods and consumer goods) and changes in their wholesale rates, the CPI measures only changes in prices of a few selected consumer goods at the retail price. In India, different CPIs are published by government:

- a) CPI for industrial workers
- b) CPI for Urban Non-Manual Employees
- c) CPI for Agricultural Labourers

The reasons why there are so many CPIs is because the same set of goods are not consumed by different types of families. For example, the types and quantities of goods and services consumed by industrial workers in towns and cities will differ from rural agricultural labourers. Non Manual or White Collar employees working in offices, banks, or IT companies consume a different set of goods compared to agricultural labourers.

The CPIs are used to calculate the DA to be paid for government employees, to revise legal wage rates as part of Indian government laws and also to estimate the number of poor in India. Inflation is generally measured on the basis of changes in WPI.

How to construct a CPI?

Let us try to construct a simple Consumer Price Index for some items that you buy for your household consumption.

Let us take Table 3. Now, write down the amount of each of the items your parents purchased last month. Let us assume that they are buying the same amount this month also. But this month, prices have increased, so the same set of goods will be costlier.

In this table, we have taken four goods, and their prices and quantities purchased. We show this data for last month in the second and third columns. Then, we multiply

the Price with the Quantity, to get the total expenditure on each item. Then, we add up the total expenditure for all items in the last row of column 4.

Table -3 Estimating Consumer Price Index						
This is an example of how CPI can be constructed. Let us assume that your family buys rice, onions, dal, and gas cylinder.						
1	2	3	4 = 2 x 3	5	6	7 = 5 x 6
Goods/Services	Last month's Price Rs.	Last month's Quantity	Expenditure Last month	This month price	This month quantity	Expenditure this month
1. Rice per kg	Rs.30	25 kgs	Rs. 750	Rs.40	25 kgs	Rs. 1000
2. Onions per kg	Rs. 10	5 kgs	Rs. 50	Rs.20	5 kgs	Rs. 100
3. Dal per kg	Rs. 75	4 kgs	Rs. 300	Rs.85	4 kgs	Rs. 340
4. Gas cylinder	Rs. 400	1	Rs. 400	Rs.410	1	Rs. 410
Total Expenditure			Rs. 1500	Total Expenditure		Rs. 1850

In the same way in column 5, we show the price of the same items of this month, and in column 6 we show the quantities purchased this month. Let us keep these quantities the same as last month. Again we multiply each item with its price and show our expenditure on that good in column 7. Now, adding up column 7 gives us total expenditure on these 4 goods in this month.

What do you see in Table 3? Your family had purchased these four goods last month at Rs.1500. But, for the same set of goods, you now have to pay Rs.1850 this month, because prices of all goods have increased. Compared to the previous month they have increased by Rs.350 i.e. in percentage terms $350/1500 \times 100 = 23.3\%$.

In other words, if one assumes Rs 100 was spent by the family last month, this month they would have to spend Rs.123.3. All families with similar consumption pattern have similar affect on their budget - they would face a price rise by 23%. The CPI is calculated in the same manner assuming the importance of various items of expenditure in a family's budget. This figure shows the extent of increase in your cost of living.

If the average price level of these four goods last month was 100, it has now increased to 123.3. That means, compared to last month, the price level of these 4 items of your household consumption has increased by 23.3% this month.

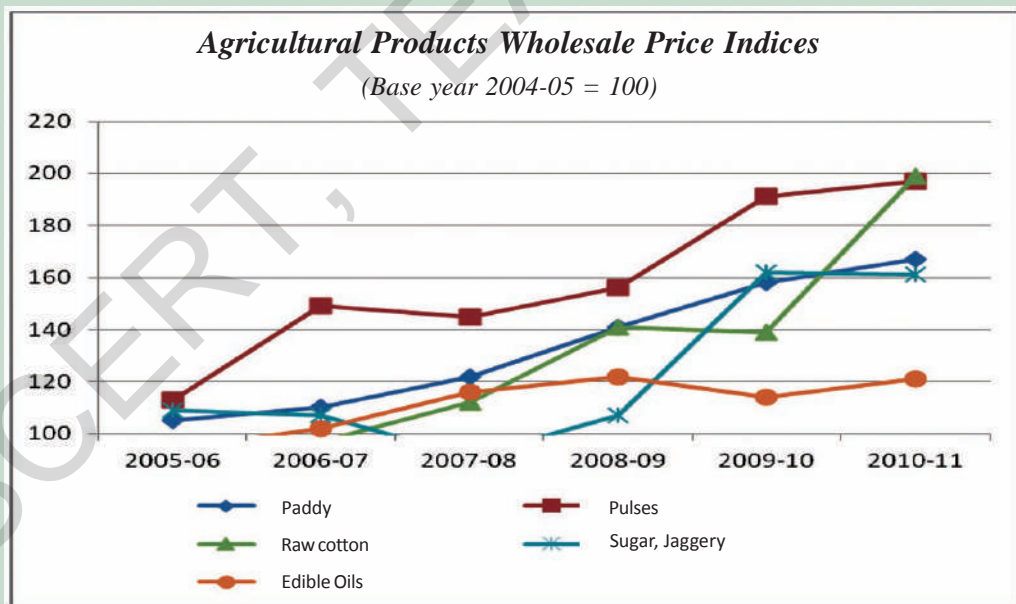
In the actual economy, there are thousands of goods and services being produced and whose prices have been increasing. The government estimates the amount by which the price level has increased in different time periods – mostly every month and every week.

Food Inflation

Since 2009, government began to estimate a new index - Food Price Index (FPI). This index is used to estimate rise in prices of food items called food inflation. The FPI consists of wholesale price of food materials such as rice, wheat, pulses, vegetables, sugar, milk, eggs, meat, fish and manufactured food materials such as edible oils. In 2011-12, edible oils accounted for higher food inflation. During that year, about 50 per cent of India's edible oil requirements were met through imports of crude palm oil sunflower oil, soyabean oil and refined palmolein. When the price of these items increased at the international level - in other countries from where we import, Indian consumers also had to pay higher prices. Since then, the government has to take measures to control the rising prices, many research studies were conducted. It was found that the change in the dietary pattern of people has changed considerably in such a manner that their consumption of vegetables, eggs, meat and fish increased recently. Any seasonal shortage causes a price rise since the demand for these products is quite high. People wish to consume them even at a higher cost. It has become a part of their regular diet.

Recent price increases

During 2009-11, prices of many essential goods went up. You can see this from the following figures. Look at the figure carefully and answer the questions that follow.



- If the price of the paddy in 2005-06 is Rs.20 a kg, then how much it will cost in 2011.
- In which years did the price of pulses increase considerably?
- What is the percentage increase in the price of cotton?
- Which commodity price has been more or less stable?

You are aware that most of petroleum products such as petrol, diesel and kerosene are made from crude oil mostly imported from other countries. The increase in crude petroleum prices along with metal and chemical prices has led to inflation in India. Inflation means general increase in the price of goods and services over a long period. Since these are basically raw materials used to produce consumer goods in India, the increase in their price led to increase in the price of consumer goods.

Role of government in regulating prices

When there is general inflation - a rapid rise in wholesale price index, it is a great concern for industrialists. If there is a rise in food inflation - it will have a direct effect on the living standards of the common people. During high levels of inflation, it is not only the people with low income or fixed incomes who suffer and become poorer, other people would also tend to invest their savings by buying land, gold or some other unproductive purposes due to uncertainty and their perception that the value of their money is declining day by day.

There is always some inflation taking place in all economies. Due to this, the consumers have to pay a higher price. Since the benefits of the increased price will go to the workers who produce those goods, it is considered as good for the country.

At times, traders whose main aim is to earn profit, raise prices of many goods and particularly essential items in illegal ways. If there is no increase in wage for workers who are also consumers in the market, they cannot buy the goods. When these goods happen to be essentials such as wheat, rice, milk etc., this creates problem for the people.

This necessitates the need for regulation of traders and keeping a close watch on them by the government. The government is taking many initiatives in this direction. You may recall the chapter on Agriculture in which you have learnt how government helps farmers by procuring paddy and wheat through Food Corporation of India using Minimum Support Price. This policy helps not only farmers but is also used by the government to regulate the prices of paddy wheat in the market. Similarly, governments both at the central and state levels, fix price for sugarcane procured to make sugar in cooperative sugar mills. This is also one such measure used to regulate prices of sugarcane in the market.

You might have studied in class VIII about public distribution system. It is used as an important activity of the government not only to ensure food security to the people and particularly the poor ones, but also to regulate the prices of essential items. Under PDS, the government has assumed responsibility for the supply of

essential commodities like wheat, rice, sugar, edible oils and kerosene. This scheme is implemented by state government with the help of many fair price shops. The prices of goods sold through Public Distribution System (PDS) are less than that of the market price and the difference in price – or subsidy is borne by the government. Apart from enabling the poor to buy goods from fair price shops, this system controls unscrupulous rise in prices of essential goods in markets.

For preventing hoarding and keeping the prices of essential commodities within reasonable levels and to facilitate their availability, the government fixes the prices and makes it mandatory for the traders to sell goods in the market at those price levels. Those who do not follow stipulated price levels are penalised by government through various laws. Goods such as kerosene, diesel, Liquid Petroleum Gas, Compressed Natural Gas and Piped Natural Gas are examples of goods whose prices are partly or solely subsidised by the government and sold under Administrative Price Mechanism.

Whenever there is price rise, the Reserve Bank of India, which is an apex body for all the banks in India, reduces the money circulation in the economy. This it does through regulating banks – asking banks to lend less or allow depositors to withdraw less. The RBI along with all the banks under its regulation controls the interest payments paid to depositors or received from the depositors. By controlling the interest rate, the amount of money circulated in the country declines. This results in people's tendency to consume less, which in turn reduces the demand for goods and thereby lowers the prices. However, it takes time to see the impact of steps taken by RBI. At times, when the inflation is caused by rise in the prices of raw materials, the measures or steps taken by RBI become difficult.

When the government decides to reduce the money in circulation, it imposes taxes on high-income groups and on many consumer goods. The intention of the government here is to reduce the purchasing capacity of the people. When people have less money to spend, their consumption will also fall, which leads to decline in prices.

Government also uses import-export policy to regulate the prices of essential goods. For example, when there is a rise in the price of food materials, exports of such goods are banned or the quantity of goods exported is restricted. When there is shortage of any material, government procure from other countries and distribute at below market prices through government organisations such as National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) and other cooperatives. Government also uses legal mechanisms whenever traders create shortage by hoarding.

Keywords

1. Standards of living
2. Inflation
3. Consumer Price Index
4. Wholesale Price Index
5. Administrative Price Mechanism

Improve your learning



1. Why is there a need to regulate prices?
2. How are prices fixed by a seller/producer?
3. Differentiate the cost of living from the standard of living.
4. Who is affected the most with the increase in cost of living? Why?
5. Which groups can still get higher incomes whenever there is inflation?
6. How is Wholesale Price Index different from Consumer Price Index?
7. How is food inflation different from Consumer Price Indices?
8. What are the uses of the CPI?
9. Write any five issues that are considered while measuring CPI?
10. Read sixth paragraph under the heading 'Role of Government in Regulating Prices' and answer the question:
How does the APM affect the government revenue? Discuss.
11. Take any five goods or services used by your family and construct a Consumer Price Index for your family based on these five goods/services.

1	2	3	4 = 2 x 3	5	6	7 = 5 x 6
Goods/Services	Last month's Price Rs. This month	Last month's Quantity	Expenditure Last month	This month price	This month quantity	Expenditure this month
1.	Rs.		Rs.	Rs.		Rs.
2.	Rs.		Rs.	Rs.		Rs.
3.	Rs.		Rs.	Rs.		Rs.
4.	Rs.		Rs.	Rs.		Rs.
5.	Rs.		Rs.	Rs.		Rs.
Total Expenditure			Rs.	Total Expenditure		Rs.
CPI: _____ %						
By how much has your total expenditure changed compared to last month? _____						

12. Write True or false against the statements given below :

(a) Inflation increases the standard of living of the people. []

(b) Value of money is shown by changes in its Purchasing Power. []

(c) Change in cost of living does not affect the standard of living of pensioners []

(d) Central Government workers are compensated for inflation by rise in DA []

(e) WPI measures changes in the price level of only consumer goods. []

13. The following table shows the wholesale Price Indices of Industrial Goods. Answer the questions that follow.

Year	Coal	Cotton cloth	Fertilizers	Cement	Iron, Steel & Ferro Alloys
2005-06	118	99	102	102	100
2006-07	118	97	104	119	105
2007-08	122	99	106	138	119
2008-09	151	103	107	139	137
2009-10	156	107	108	149	124
2010-11	165	115	117	151	136

(a) Which commodity's price rose steeply over the years?

(b) What could be the reasons for a slow rise in the price of cotton cloth and fertilizers?

14. Write a letter to your Tehsildar on proper maintenance of Public Distribution System by indicating your suggestions?



Role of the Government

In most modern societies, the government is responsible for a number of crucial functions. These also include the more traditional functions like defending the country and maintaining internal law and order.

In addition, the government has to take the responsibility of setting up and running schools, colleges, libraries, health centers, hospitals, post offices and a variety of other public institutions. The public transport system and the infrastructure of roads and railways are constructed and maintained by the government. In providing water, sanitation, electricity facilities, the government has to play an active role. Facilities like healthcare and sanitation, electricity, public transport, schools and colleges are known as public facilities.

The important characteristic of a public facility is that once it is provided, its benefits can be shared by many people. You have read about this in Class VIII. For instance, a government school in a village will enable many children to get education. Similarly, the supply of electricity to an area can be useful for many people: farmers can run pump sets to irrigate their fields, factories, offices, shops and markets require a reliable source of power to run, students will find it easier to study and most of the people, whether in a village or a town, will benefit in some way or the other. These public facilities have to be available to all and at an affordable rate. Governments have the responsibility for this. It may take up the work on its own or get it organised.

Besides the provision of public facilities, the government has the responsibility towards protection of livelihoods. You have read about the Right to Work and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in rural areas. The Act mandates that it is the responsibility of the government to provide manual work on demand and the wages to the workers and the capital needed are to be paid by the government. The distribution of food grains at fair prices in the PDS shops is organised and the subsidy borne by the government. As we have seen, these are critical for the food security of the poor.

In the past, the Indian government has also played a major role in setting up heavy industries such as heavy engineering, power generation, production of steel, extraction and refining of petroleum etc. without which industrialisation would have been very difficult. You read more about these basic industries in Chapter 7 in this book.

- In your city/ town/ village, what are the roles that you have seen the government playing? Discuss.
- Collect and list out some details of government expenditure after reading the newspapers of your region.
- Can you guess from where does the government get money for public facilities and other activities?

Subsidies

Money paid by government to reduce the cost of certain important goods such as fertilizers, foodgrains, diesel and other important goods so that their prices can be kept low and affordable to all.

In rural areas, investments on irrigation projects and agricultural extension works by the government are crucial for farming. The government also helps farmers by selling fertilisers at a lower price than what would have been otherwise fixed by the factories. The government compensates factories to some extent so that the final price of fertilizers is affordable for the farmers. This money, paid by the government to the factories, is the subsidy for fertilisers. If this was not there, the price charged by the factories would have been much higher. Similarly, the government provides subsidies for many products by compensating the producer, so that the price is kept affordable, especially for those who need it the most. In this way, it subsidizes the price of kerosene, food grain from fair price shops, LPG gas cylinders etc. These days, there is a lot of debate on how effective these subsidies have been. Are they benefitting people? Are there better ways of organising them? You'll read about some of these issues in this chapter.

To fulfill the various roles, the government must have adequate money. The money required for the different functions of the government is collected from the people in the form of taxes. There are a variety of taxes that the government collects about which we shall study in the next sections. The taxes



Fig. 11.1: Some government activities

collected constitute the revenues of the government. Revenues are necessary to finance the expenditures of the government. The Annual Budget presented before the Parliament by the Finance Minister gives the expected expenditure by the government on its various programmes for the coming year. It also states how these expenditures are going to be met through various revenue collections. Similarly, in each state assembly, the state government presents the budget for that state.

Expenditures by the Government

Let us look at the actual expenditure of the Indian government to get a sense of how and how much money the government spends on us. In 2011-12, the government spent around Rs.23,00,000 crores (23 lakh crores). This seems to be a lot of money and indeed it is. Nearly one-fourth of the total spending in the Indian economy is by the government. Rest of the three-fourth of the spending is by the private sector – households that spend on food, education, travel, cloth, housing, health, entertainment etc; and businesses whether it is a manufacturing or a service that have to spend on raw materials, machines, other products, wages and salaries to employees, sales and marketing and other expenses for running the business.

The pie-chart gives the proportion in which this money was spent across various expenditure heads by the government in India in the year 2011-12, from 1st April 2011-31st March 2012. Here, the Government refers to both Central government and all the State governments. In the year 2011-12, 12% of the total expenditure was on education, art and culture. This includes both salaries of employees, running costs of schools and colleges, etc. as well as new investments like construction of new school buildings, purchase of new computers, books etc.

Similarly, 4 % of the total spending was on health and sanitation; 4% was on rural development, and so on.

When you look at the pie-chart, you will notice that besides spending on development activities, there are certain other expenditures like administration, pension, interest and defence. These do not contribute to development directly, but they are necessary. To run its various departments, programmes and the organs of the state (legislature, executive and judiciary), there are expenditures on administration. The government also pays pensions to workers who have retired from the government. Then, there are expenditures on interest payments. Since

Expenditure of the Government
(Center and States), in 2011-12



every year, the Indian government has to borrow some money to meet its expenditure, it has to pay interest on its past borrowings.

The amount that the government spends on health versus defence depends on the policy priorities of the government and people's voice. Every year, around the time of the budget and once the budget is presented, you would have seen there is a lot of media attention on these issues. Though the decisions on budgetary spending is mostly taken by the government, consultations happen between the government and industry groups, farmer groups, civil society activists etc. Groups representing certain sections of the people voice their views, demands and at times, their disagreements before the government. It is through pressures of this kind that the people have demanded greater spending on social sectors such as education, health, food subsidy etc.

The check on the government on matters of budget is ensured through legislative control. The Parliament has to debate the various issues of the budget that has been placed before it and approve the expenditure proposals of the government. The Parliament has to allow the government to withdraw money for its expenditures. Similarly, no tax can be levied except by the authority of the law passed by Parliament. Thus, as per the Constitutional requirement, the elected representatives of the people have an important say in the budgetary decision-making.

- Using the information in the above section, calculate the expenditure of the government on food subsidy? Discuss the areas where this money was spent and the purpose for this.
- With the help of your teacher, try to relate to some of the expenditures in the pie-chart to the roles played by the government as discussed in Section 1.
- In the year 1947-48, the budget for independent India was only Rs.197 crores. What could be the reasons for such an increase in the budget since then?
- Why do you think has the Parliament been given power over the government's budget?
- There have been continuous attempts by the government to reduce fertiliser subsidy. This means that the government would no longer control the price of fertiliser. Farmers would have to buy fertilisers at higher market prices. At present, the government has to pay (compensate) the fertiliser producing companies for the losses they make. Once fertiliser subsidy is removed, it is said this would make space for other important expenditures in the government budget. Some also argue that subsidised fertiliser does not benefit the small farmer but only encourages the large farmers to overuse it.

Imagine you are a farmer using fertilisers in farming, and you genuinely believe that the farmers need subsidized fertiliser. How would you argue your case? Write a letter to the Finance Minister.

Taxes

Taxes are the main source of revenue for the government. There are a variety of taxes collected by the government. You might have heard about some of them like Goods and Service Tax (GST), income tax, property tax, customs duty etc. The taxes can broadly be classified into two categories: direct taxes and indirect taxes.

Direct Taxes

We pay taxes on goods and services that we buy/consume. We have seen how the producer or the trader adds the taxes to the final prices which consumers have to pay. As the goods pass through a number of stages of production and sale, at each step the taxes are paid to the government. However, the total tax is finally passed to the consumer. Thus, taxes on goods and services are also called indirect taxes. Consumers pay it but indirectly.

In addition, there are taxes which are directly charged to individuals directly on their income or directly on the profits earned by companies and business. These taxes have to be paid directly by the individuals or businesses to the government and hence are called Direct Taxes.

There are two important direct taxes – Income Tax and Corporate Tax.

Companies that run factories or businesses have to pay taxes. Companies or businesses receive money from the sale of their products or services. After subtracting all expenses (on raw materials, salaries etc.) from their earnings, the portion that remains is known as the profit of that company or factory. On this profit, corporate tax has to be paid according to the rules.

Income tax is charged on personal income of individuals. There can be a variety of sources of individual incomes like wages, salaries and pensions. An individual can also earn interest income on money that is kept in banks. A person might also get rent on properties that he owns like house rent. All these are considered as incomes on which taxes have to be paid. Income tax is charged only for those who earn above a certain amount. This is charged as a percentage of the income earned. Those who earn a higher income have to pay a greater proportion of their income as tax.

What is the fair way of collecting tax from income?

1. You might think it would be fair for everyone to pay the same amount of tax. Consider the following three people:

Person	Work	Earning per month (in Rupees)	Tax as fixed amount per month (in Rupees)
Jyoti	Daily wage labourer	1,500	50
Asif	School teacher	8,000	50
Nithesh	Business person	30,000	50

Would it really be fair if each of the three people has to pay the same amount? If Jyoti cannot even afford to feed her children properly, is it fair for her to pay 50 rupees as tax?

2. You might think it would be more fair to ask each person to pay a certain percentage of what they earn as tax. Supposing everyone paid 10% in taxes, calculate how much each person would pay.

Person	Earning per month (in Rupees)	Tax as fixed amount per month (in Rupees)
Jyoti	1,500	
Asif	8,000	
Nithesh	30,000	

Would this be fair? Still Jyoti may not have enough to live. Asif may not have enough for repairing of his house. But Nithesh would have plenty of money for all the basic necessities even if he had to pay 20% of his income as taxes.

3. To make taxes more fair, only the people earning more than a certain amount say Rs. 7000 per month have to pay taxes. You might also say that the richest people should pay greater proportion of their earnings as taxes. For example

If you earn (in Rupees)	You will pay as tax
Less than 7,000	0%
7001 to 15,000	10%
15,001 to 25,000	20%
More than 25,000	30%

Calculate how much each person will pay.

Person	Earning per month (in Rupees)	Tax as fixed amount per month (in Rupees)
Jyoti	1,000	
Asif	6,000	
Nithesh	20,000	

Would this be fair?

Indirect Taxes

Indirect taxes are charged on goods and services. You would have seen that alongside the printed Maximum Retail Price (MRP) of goods it is written “inclusive of all taxes”. It means that the price includes taxes. Similarly, for most services like telephone and mobile phone services, the price that consumers pay includes taxes.

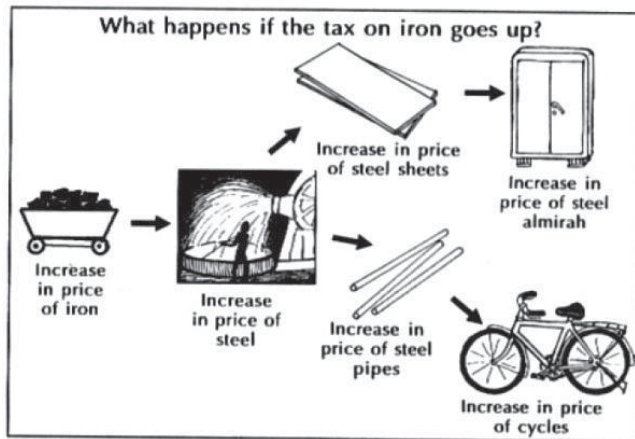
Let us look at the example of sale of a television to see **how the taxes add up to the price**. All figures are in Rupees.

Suppose the cost of manufacturing a television set is Rs.10,000. This includes profit of the manufacturer. At the time of sale, the company pays a tax of Rs. 1,800 which is added to the price of the television set. The final price paid by the consumer includes the costs, profits and the taxes paid. We will find out more about the method of taxation and principle guiding it in the next section.

Cost of manufacturing including profit of the manufacturer	Rs.10,000
Tax	1,800
Price for the consumer	11,800

The proportion earned as profits and the taxes paid would vary from one good to another. The important thing to remember is that most goods and services carry an element of tax as part of its price.

While all taxes on goods and services add to the price, taxing certain goods and services raises the overall prices more. For example, to manufacture bicycles, steel pipes are needed. In order to make steel, the steel factory needs iron and coal. If tax on iron is increased, it will have an effect on cycles as well. The prices of all goods made of iron will go up. And since iron is used to make steel, the prices of all things made of steel will also go up. In this way, a tax increase on iron has far reaching effects.



Thus, taxing heavily basic raw materials **and intermediate products** that are used by many other factories – sets up a chain reaction. All things which are connected to these products, in one way or the other, are affected.

1. In the example of the TV, what proportion of the cost of the TV did the consumer pay as tax?
2. If two manufacturers make a similar product but one of them does not pay taxes, how is this system unfair?
3. If the tax on intermediate goods increases, how is the price of final products affected? Explain using a new example from your region.

Goods and Services Tax (GST) as Value Added Method

The GST was launched in India in 2017, though the preparations have taken across several years. Till recently, we had a variety of indirect taxes. Excise duty was charged on the production of goods. Sales tax was charged on the sale of goods. Service tax was charged on the sale of services such as mobile service, restaurant service, etc. With the launch of GST, most of the indirect taxes have been replaced by one system of Goods and Service Tax. It encompasses taxation of both production and sale of goods and services.

Modern production and sale process is a complex one and may involve many stages. Even the simplest product would comprise of atleast a few stages in production and then sale. At each stage, there is some added value. Let us understand it using the following example.

A biscuit manufacturer buys his raw materials from an unbranded source. He buys materials such as wheat flour, sugar etc on which no tax is charged. Suppose he makes Rs.450 worth of biscuits, all his costs are included in this figure – raw materials, labour charges, salaries, office and factory rent etc. If he adds his profit

margin of Rs. 50, the total value of the output is Rs. 500. This is his sale price. He sells the biscuits to a trader. At the time of sale, the biscuit manufacturer has to charge GST at the prescribed tax rate.

If the GST rate is 5%, the biscuit manufacturer would have to pay Rs.25 as tax (5% of Rs.500) that he would charge to the trader, who buys the biscuits. This tax is collected by the biscuit manufacturer from the wholesale trader and paid or deposited with the government. The bill to the trader reads as:

Value of biscuits	Rs.500
GST	Rs.25
Total	Rs.525

For the wholesale trader the value of goods purchased is Rs 500. The trader stocks the goods, maintains a shop and hires staff to do the work. She sells these biscuits to a retail store at Rs 600. This value of goods sold includes all her costs and profit margin. Rs. 600 may be considered the value of her output. At 5% GST rate she has to charge Rs.30 as GST when she sells. Therefore her bill for the retailer would read as:

Value of biscuits	Rs.600
GST	Rs.30
Total price for retailer	Rs.630

How much would the wholesale trader pay as tax to the government? Recall that she has paid a GST of Rs.25 already. When she bought the biscuits from the biscuit manufacturer, the price she paid included Rs.25 as tax. What was paid previously (Rs.25) is thus deducted from Rs.30 to calculate the tax that the trader pays to the government. She has collected 30 from the retailer but gets a credit of Rs.25 for the tax she has already paid on her input (also called input tax credit). Hence she pays only Rs.5 to the government.

There is another way of looking at this. For the wholesale trader, the value of goods sold is 600 and the total value of input purchased is Rs. 500. Value added is Rs 100. Value added is simply the difference between value of goods and services sold (output) and the value of inputs purchased. Tax rate of 5% on Rs.100 is Rs.5. This is the same amount as paid by the trader to the government! Tax is paid by the trader on value added (Rs. 100), and not on the total value (Rs.600). The inputs used in production that have already been taxed

once are not taxed again. As a proof that the inputs have been taxed, the trader must show the bill of the biscuit manufacturer.

The retailer has bought the biscuits for Rs.600 and has also paid a tax of Rs.30. She now sells her biscuits for Rs.700 to cover all her costs and include her profit. The bill for the final consumer would be:

Value of biscuits	Rs.700
GST	Rs.35
Price for consumer	Rs.735

However the tax paid by the retailer would be the difference between tax collected (Rs.35) and tax already paid on inputs (30). Tax paid by the retailer is Rs.5.

- Tax paid by the Manufacturer to the Government
 Tax paid by the Trader to the Government
 Tax paid by the Retailer to the Government
 Total tax paid to the Government
 Tax paid by the final consumer
- Value added by Manufacturer
 Value added by Trader
 Value added by Retailer
 Total Value of goods sold.
- In the bills given below identify the value of good/ service sold and the GST charged on this.

TAX INVOICE

NAME: Mrs SHEETAL JAISHANKAR
 ADDRESS: VSP Hb HYDERABAD, TELANGANA
 CUST STATE CODE: 36
 CONTACT NO: 9989265016

DOC NO: 10220290
 DATE: 01/02/2019
 GSTIN: 36AJFT5457H2Q
 STORE STATE CODE: 36
 CIN:

SINO	ITEM CODE	Description	HSN CODE	MRP	QTY	AMOUNT	DISCOUNT	Net Amount
001	NKC3001PV02	ZOOP	9102	850		850		850
002	GA0027	GIFT WITH PURCH	3524	55		55	-55	

NET TOTAL AMOUNT(INR): 851
 ASSESSABLE VALUE: 719
 NET TAX: 132
 CGST @ 9.00 % ON 719: 66
 SGST @ 9.00 % ON 719: 66

AMOUNT PAYABLE: 851

AMOUNT IN WORDS: EIGHT HUNDRED and FIFTY ONE ONLY

CREDITCARD: 851

POINTS EARNED ON: ENCIRCLE
 LOYALTY NO.: 700175441406

CUSTOMER SIGNATURE: _____
 AUTHORIZED SIGNATORY: _____

THE EXCLUSIVE TITAN SHOWROOM
 Plot No : 33, Prashanthnagar, Vanasthalipuram, Hyderabad - 500070. TOLL FREE : 1800-298-0123

MOHINI'S
 Multi Cuisine Restaurant
 #3-6-342, Basheer Bagh
 Ph: 23224431, 40041101

TAX INVOICE

Date : 01/02/19 Bill No. : 158068
 T.No. : 21-B W. No. : 2

Particulars	Qty	Rate	Amount
CD 250ML BOTTLE	2	19.04	38.08
CHI TIKKA MASALA(HALF)	1	209.52	209.52
BUTTER NAN	2	28.57	57.14
CHI BIRYANI	1	219.14	219.14

Sub Total : 523.88
 CGST @ 2.8% : 13.10
 SGST @ 2.5% : 13.10

4/6/2 Total : 550

GSTIN - 36ABHFM8372M1ZK (02:25 PM)
 SAC CODE - 996331

RESTAURANT

Impact of GST

Three things are note worthy here.

- Bills (invoices) have a crucial role in GST. It provides proof that the buyer has paid the GST on her inputs. For the trader in our example, unless she furnishes proof of her purchase, she will have to pay to the government Rs.30 as tax instead of Rs.5. Thus she will remember to ask the biscuit manufacturer for the bill. Similarly, the retail store owner will remember to demand a bill from the trader to show the taxes paid already. Under the GST, every intermediary has an incentive to maintain a proper bill of the transaction and pay tax. Thus it is more likely that people will pay the required tax and there will be less evasion of taxes.
- Though tax is charged by the manufacturer or trader, ultimately it is the consumer who pays the tax. The consumer is often unaware of the tax hidden in the price since it is collected indirectly from the consumer. The manufacturer and traders collect the tax and forward the tax proceeds to the government, while the final consumer bears the final burden of tax. Isn

Another important feature is one tax for the whole country. Under GST, the goods and services carry the same tax rate across the country. Whether it is sold next to the factory where it is produced or thousands of kilometers away the tax rate charged would be the same. Earlier the tax rates would differ across states. Medicines or motorcycles were cheaper in one state than another. As a result, there was unwanted competition between states, with industry and trade migrating from one state to another. People smuggled goods from one state to another, without paying the required tax. Further, for the movement of goods across states, there was entry tax which would be collected at the border. You may have noticed the long line of trucks that at state borders or at the entry point of cities. Under GST, these problems will be avoided. This will save a lot of time, and energy.

GST, however, still has some way to go. For instance, petrol and diesel, two important intermediate products, have not been included in GST and these products continue to be taxed as before.

Sales Tax Rate (in percentage) on Petrol and Diesel as on 1st Nov.2017 (rounded off)		
State	Petrol	Diesel
Andhra Pradesh	39	31
Telangana	35	27
Chattisgarh	29	27
Odisha	26	26
Maharashtra	43	23

Discuss in class:

What do you think would be the effect of levying multiple indirect taxes on petrol and diesel rather than a single GST?

How do you think people respond to the difference in sales tax rate on petrol and diesel between Telangana and Andhra Pradesh?

You may wonder why there is no GST on petrol and diesel yet. For the states, sales tax on petrol and diesel constitute major revenues such that the states do not want to lose their power to tax these products at rates they deem suitable. After all, every government wants to keep the maximum share of revenues for oneself and use them in ways that they want. Unlike GST, revenues from sales tax can be retained wholly by the states and do not have to be shared with the central government. This is one of the many problems that GST has to overcome in future.

- Kabir goes to Jaya Electricals. He finds that there are three tax rates on electrical products. Products like mixer, juicer, iron and other consumer durables are charged at a GST rate of 28%. Water purifier machine are charged at 18%. LED bulbs are charged a GST rate of 12%. Can you guess why?
- Look at the bills given earlier. Find out what is meant by CGST and SGST.
- Is Custom duty is still charged? Find out

Project work

- Collect different bills and make a poster of bills to show how GST is levied on goods and services that are sold. Are there some goods that are exempted from GST?

- GST is charged at different rates 5,12,18 and 28 percent. Visit the market and find out two examples for each rate. Draw up a table.
- Speak to a few producer of goods and some traders. Do you think that the market environment could be changed so that there is more compliance and less tax avoidance? Explain your view in two paragraphs.

Fairness in Taxation

What kind of taxation we follow depends on the values that the society as a whole holds. Most societies feel that it is not fair that a few people have lakhs of rupees, while others don't have enough to eat. The government should collect more taxes from the rich and the poor should not be taxed or taxed minimally. If the society as a whole aspires, the taxes so collected can be spent to raise the income of the poor by providing better opportunities and living conditions. Notice that as the incomes of the poor improve, more taxes can be collected!

As in the example of Jyoti, Asif and Nithesh, in most countries across the world, the government taxes those with a higher income at a higher rate. According to the rules of income tax, those with higher incomes have to pay greater part in the taxes. Those who are less wealthy pay not only lower taxes, but a smaller proportion of their income as taxes. Hence, direct taxes are preferred but in India, as you read in the previous section, the major source of tax is indirect i.e on goods and services. Whether rich or poor, everyone has to pay the same amount of tax when buying something. The poor “feel the pinch” as they say.

While levying taxes on goods and services, it becomes difficult to distinguish between the poor and the rich. There is, however, a way by which the distinction between some goods can be made. For example, grains, pulses, vegetables, cloth, kerosene, cooking oil, cooking gas etc. are goods that are essential. Rich or poor, everyone buys them but the poor spend almost all of their income on these goods. Then there are goods and services which only the rich can purchase: cars, laptops, air-conditioner, dining in restaurants etc. It is difficult for the poor to afford these luxuries. Hence, one way to distinguish between the rich and the poor is not to tax the essential things but to tax luxury items. (Remember what may be considered as luxury today might become necessities in the future as living conditions improve.)

The problem is that since not many people can afford to buy these luxury items, taxing only such things cannot bring much income to the government.

There is another consideration that the government has to keep in mind in taxing goods and services. There are a number of goods and services that are not directly used by people, such as diesel, steel, aluminium, machines, trucks, truck tyres etc. Such things are used in making or transporting other things. You can imagine the

large number of places - industries, factories and businesses where these might be used. People do not buy them directly for consumption.

We saw that when tax is increased on things such as steel, diesel etc, this increase gets added to the cost of goods which are made out of them or transported with

their help. With this, even the poor who buy grain or cloth have to pay some part of the tax on diesel or steel. When such things are taxed, the price of many other things goes up. Thus, we often hear people saying:

“The increase in the price of petrol and diesel has led to an all round increase in prices. Fruits, vegetables, pulses and other food items, for example, have become more expensive.”

For this reason, the question that troubles everyone each year is: which taxes should be increased more? Taxes can be collected more easily on goods, but except for luxury items, taxing essential goods affects the poor greatly. Taxes charged and collected have a strong impact on people’s lives. The tax on income falls more heavily on the rich and therefore can be considered more fair. But the taxes from income might not be enough to cover the large government expenditure. Any budget has to take all these considerations into account. That is why the time of the budget is of great importance for everyone.

- We read about some of the major taxes collected by the government. Fill the blanks in the table from the information given below. Income Tax: 12%; Corporation Tax: 24%; Customs Duty: 10%, GST: 54%.

Taxes Collected by the Government

Taxes	Percentage of Total Tax
Direct Taxes	36%
Indirect Taxes	
Total Taxes	100%

1. Which kind of taxes generate more revenues for the government?
2. Kranti has an income of Rs.1,75,000 per year and has to pay an income tax of Rs.3000. Kamlesh's annual income is Rs.3,00,000 and he has to pay an income tax of Rs.5,500.
 - Who pays more income tax?
 - Who has to pay a larger part of the income as tax?
 - In such a situation, the person with higher income is paying a _____ (smaller/ greater/ equal) part of the income as tax.

Collection and Evasion of Taxes

The government gets income from different kinds of taxes. It has to decide how much money to collect through each kind of tax. For this, it has to

consider: how many people would have to pay; whether this tax can be collected easily; how would it affect the rich and the poor. A mother related question is whether people pay their taxes or evade it.

You know that a large number of people in our country depend on agriculture. Most of them are small and medium farmers. There are also some large farmers with high incomes. However, all agricultural income is exempted from tax. Similarly, a large section of people in the country earn very low income whether from trade or running small shops or providing labour. The income of these people would be below the limit for income tax. Thus, the percentage of total number of people who could be paying income tax is small.

Even this small percentage of people from a large population implies that tax has to be collected from a sizable number of people. For example, in the incomes of around 280 lakhs of individuals were assessed for income tax. They would be living in different places in the country. Collecting income tax is not easy. There are many hurdles. Many people do not disclose their entire income or show it to be less than what it actually is. This income, which is kept hidden, is known as black money.

Many factory owners, rich moneylenders, traders, those doing private business can easily show a low income. It is easy to calculate the income of those who are paid monthly salaries. Tax on their income is directly deducted at the source from where they get their salaries. But many salaried persons also have other sources of income which they keep hidden. Such people, whether they are workers, officers, ministers or clerks, often do not disclose their income correctly. Because there is no tax on income from agriculture many wrongly show their income as income from land and therefore, evade tax.

Thus, there are many 'tax evaders' and the black money, that is the money on which tax should have been paid but wasn't, goes on accumulating. To get hold of this hoard of black money, the income tax department raids many people's houses and offices. It has also tried to make the procedures more convenient for people to pay their own tax. Despite these efforts, a large number of people do not pay income tax or pay less than they should.

On the other hand, taxes on goods can be collected more easily since there are fewer places from where it has to be collected. GST is collected from factories, traders and others, customs duty from international airports and seaports. As compared with income tax to be paid by individuals, the government finds it easier to keep a track of these factory records or shops.

Even here, there are those who try to escape taxes by showing lower production than has actually taken place. Tax is evaded on a wide scale. Some traders, by not

issuing proper bills or recording it in their official registers, show much lower sales than what actually occurred. GST, as we saw in this chapter, is intended to reduce the evasion of taxes on goods and services.

Keywords

- | | | |
|------------------|---------------------------|-----------------------|
| 1. Annual budget | 2. Black money | 3. Value Added Method |
| 4. Corporate tax | 5. Direct tax | 6. Indirect tax |
| 7. Income tax | 8. Goods and Services Tax | |

Improve your learning



1. Why does the government need a budget?
Why does the budget talk of taxes?
2. What is the difference between income tax and excise duty?
3. You are expected to pay taxes on steel, matches, clocks, cloth, iron; a tax increase on which of these would affect the prices of other commodities the most and why?
4. Ordinary food items, such as grain, pulses, oil are used by all. Then why is it said that imposing tax on them will have a greater effect on the poor?
5. Tax on income or tax on commodities; which of the two affects the rich more and which affects the poor more? Explain with reasons.
6. How would VAT reduce the evasion of taxes on goods?
7. What is the difference between Excise duty and Customs duty?
8. What are the possible reasons for hike in the bus fares?
9. Read the paragraph under the heading 'Direct Taxes' (Income Tax is charged only for ...) and answer the following:
Why do high income earners pay more tax?
10. What is the effect of black money on our economy?

Project

Bring a few wrappers of soaps, toothpastes, tablet strips or any other things of daily use which contain MRP. Discuss the rate mentioned and the rate at which they are sold. Talk about the profit that the retailer gets.



The Modern World – An Introduction

Today we live in a world where all countries from every part of the globe are in constant interaction with each other. You look at the sports page of the newspaper you will find Indian teams playing with teams from different parts of the world in some country or the other. If you look at the products you use every day, whether toothpaste, mobile, bus, or even food items, you will find that these have been produced in some distant countries. The way we dress, the films we see and even the food we eat are now greatly influenced by world trends. The price at which our farmers buy diesel or fertilisers or the price at which they sell their produce now depends on world market prices. Multinational companies set up factories and offices in India and Indian companies are setting up factories and offices in other countries.

We thus see that today we live in a world which is very closely bound together. It is true that all through human history people of different countries have been in touch with each other to some extent. Whole people migrated in search of better lands or to escape famines or diseases. Sailors crossed seas, travellers, pilgrims and traders crossed high mountains, deserts and rivers to get in touch with new people and lands. Kings and soldiers conquered new lands to enlarge their kingdoms. Religious teachers, artists and scholars too travelled far and wide to spread their ideas and learn new things. In this way people of different countries got to know each other. For the last few centuries however, this contact between different parts of the world has grown enormously. So much so that we live in a 'Global Village'. In a village everyone knows everyone else very closely and interact with each other closely. Similarly, today people of the entire world know each other, and interact with each other very closely.

However, this coming together of the countries of the world was not a simple and happy story of travels and pilgrimages. Wars, conquests, enslavement and displacement of millions of people, massive destruction of forests and other natural resources, domination of one country by another, struggles and wars for freedom, etc are an important feature of this process.

In class IX and X we will be reading about how this modern world came into being, what are the main ideas and driving processes of modern world and how different parts of the world participated in creating what we see today all around us.

Activity 1

Let us begin with a simple activity. Divide the class into groups of five or six students each. Take a globe which shows different continents and countries of the world. If you don't have a globe, use a world map or atlas. Take a newspaper and give one page to each group. Look at all the news mentioned in each page and note the name of the country in which it happened. Locate the country on the globe and find out which continent it belongs to. Look at all the advertisements too and see if they mention any foreign country, note down the name of the country and the continent in the same way.

Share the lists with all the groups. Now note the names of the countries that occur most frequently. Use internet, maps etc to find out more about those countries and prepare posters about one country in every group.



Map 1: World Map, with important countries named.

Changes that made the Modern World

The integration of the entire world progressed very rapidly from around 1450 CE. This was accompanied by many important changes in the way people worked, thought and ruled. Many of these changes enabled the development of some of the key features of the modern world. For example, today most of the things we use are produced in factories with machines on a large scale and we buy them from the market. Even in agriculture we use modern methods, machines etc to produce for sale in the market. This was the result of a major change which we call '**Industrial Revolution**'. Secondly, most countries today are not ruled by kings or queens but by democratically elected governments which are answerable to the people of their country. This is a result of a process we call '**Democratic Revolution**'. A third important change relates to the way people think and understand the world. Today we give a lot of importance to science, reason and evidence and do not accept anything which others tell us without questioning them. Using the methods of science and reason people are trying to understand everything around us, about the earth, the entire universe, life around us, our own body, our feelings and thinking too. This is the result of a process we call '**Scientific Revolution**'.

However, during the last few centuries a few countries tried to conquer and exploit other countries of the world. For example, India became a colony of a distant European country, Great Britain. A few European countries like Britain, France, Holland, Spain etc. gained control over most of Africa, Asia, South and North America. This led to a forced transformation of the lives of the people living in these countries. This process is called '**Colonisation**'.

The people of the colonies fought for freedom and much of modern world history is the story of their struggles. In all countries of the world, the poor and the deprived people have been fighting for equal rights, opportunities and share in the wealth created by human labour. These struggles for freedom, equality and dignity are also one of the main features of modern history.

In the following chapters we will be studying mainly these features and processes of the modern world which got firmly established after 1750 CE.

Early Modern Period

The period between 1450 and 1750 is generally called the Early Modern Period. many features had begun to develop in different parts of the world much before that. For example, traders of India, China, Arabia, etc were carrying goods by sea route to each other countries for a very long time. Around 1492 Christopher

Columbus, an Italian sailor reached South America, and effectively discovered a continent unknown to most Europeans till then. This opened the way for colonisation of South and North America. Similarly, Vasco da Gama a Portuguese sailor worked out a sea route to India by going around Africa in 1498. This opened the way for European ships to trade not only with different parts of Africa and India but also go all the way upto China by sea. These developments created conditions for great spurt in trade and exchange between all the continents of the world. As a result, great towns dominated by rich merchants developed all over the world. The expansion of trade stimulated agricultural and craft production for international markets.

Another such development was the rise of large kingdoms and empires in which power was concentrated in the hands of a few people. They had strong armies and officials who established order and collected taxes. They tried to put down small local kings or landlords who wanted autonomy. This led to unification of countries and development of common administrative system. For example, in India, the Mughal empire developed a strong central government and administrative system. Similar empires emerged in China, Iran, Turkey and different parts of Europe.

The early modern period was also the time when major advances were made in Science (especially Astronomy), Mathematics, Philosophy etc. During this time the observations and calculations made by scientists of China, India, Arab countries and Europe were compiled and studied. After years of hard work great scientists like Galileo arrived at the conclusion that the Sun was at the centre of the Solar System and planets like the Earth went around it. Great mathematicians like Nilakantha Somayaji, Descartes and Newton, developed new methods for studying movement of planets and stars.

The thought of the Early Modern period was dominated by the idea of human freedom and equality. It took different forms in different countries. This had a great influence on religious thinking as people rebelled against dogmatism, priesthood and ritualism of earlier religious thought and asserted that all human beings could reach god irrespective of their birth or social status. In the field of arts, this resulted in realistic depiction of human beings and the world around us especially in painting.

All these changes in the early modern period paved the way for the great developments of the Modern period you will now read about.

Today, we are used to the idea of democratic form of government. All the citizens have fundamental rights and are treated as equals by law. However, this kind of democracy was not there in the earlier times. Countries were ruled by kings or emperors who made laws at their will and the society was divided into estates, each had its privileges and obligations. In this chapter, we will read about how people fought to build democratic political systems and achieve social equality.

In Europe, England was ruled by Kings of the Tudor dynasty at the beginning of the 17th century. At that time, the Pope was the head of the Roman Catholic Church. But the Tudor kings refused to accept the authority of the Pope. They thought that England should be independent of the Pope and Roman Catholic Church. Soon, another new conflict started between the Parliament and the King as to who was more powerful in the kingdom. Let us see how this conflict led to the establishment of a democratic government in Britain.

- How different would our lives have been if we were ruled by kings?
- What would happen if all people were not equal before law – and some had special privileges like the right to kill others?

England – The Civil War and the Glorious Revolution

In 1603 CE, James I of Stuart Dynasty became the King of England after the death of the last queen of Tudor dynasty. The king needed the approval of this Parliament to impose any tax or approve new laws. He did not want the Parliament to question him. He believed that the absolute powers of the king were given by God, so the Kings ruled by a Divine Right. This was called the Divine Right Theory. Therefore, he believed that the king should not be controlled by the Parliament.

James-I was succeeded by Charles-I. Charles-I dissolved the Parliament and ruled for 11 years without any Parliament. But in 1640 CE, he needed money to fight some wars. So, he was forced to summon the Parliament to get special grants. This Parliament continued 1640 to 1660 CE (and hence, it is called the Long Parliament). The Long Parliament decided to control the autocracy of the King and his ministers. The parliament punished the ministers and officers of Charles-I. It stopped the working of special courts created by the King. Charles-I took advantage of its differences within the Parliament and tried to arrest his opponents in the parliament. A Civil War started between the parliamentary party and the king's party, which lasted for 5 years. Ultimately, Charles-I was defeated and executed in 1649 CE and England became a republic.

However, this experiment of republican government was not very successful and did not last long. In 1688 CE, William of Orange and his wife, Mary (grand daughter of Charles-I), were invited by the



Charles-I

Parliament to occupy the throne of England. In the new system of government, ministers were answerable to the Parliament and the King had limited powers. This was the beginning of parliamentary democracy in England. Now, the power of the king was not a divine right but it was granted by the Parliament. This was called Constitutional Monarchy. All this took place without shedding a drop of blood or firing a single shot. This transformation, therefore, is known as ‘Glorious’ or ‘Bloodless Revolution’.

After the revolution, the control came into the hands of the House of Commons which represented the middle class. In this period, only the people with land and property had the right to vote in the elections to the Parliament. The right to vote was gradually extended to different sections of the population and eventually to all adults by 1928 CE. Thus, Parliamentary form of government grew in stages in England.

American Independence (1774-1789 CE)

After Columbus discovered American Continent in 1492 CE, England and other European countries had established its colonies on the eastern coast of North America by the middle of the 18 th century. Thirteen states had become colonies of the British. Most of them were occupied by people who wanted to be free and independent from England. They had moved to America and settled there to cultivate lands, run small workshops and conduct trade. The English Parliament started forcing its power on these colonies by making laws for the American states. But the people of those states did not vote in the elections to the Parliament.

Till 1750s, the American colonies were inhabited by small and middle sized farmers who owned the land and tilled it too. It also had a large number of artisans and traders. However, these colonies did not have any powerful landlords or princes as in Europe. Thus, there was a degree of equality among the people. While most of the people were Christians, they belonged to different sects and each sect had its own church. This meant that the priests did not have the same authority and social position as in Europe. Many prominent Americans inspired and reinforced social equality in America. Many of them like Tom Paine and Thomas Jefferson actively campaigned for political equality and freedom of thought for all people.



Thomas Jefferson

The English Parliament often passed laws that favoured English traders and factories rather than American people of the colonies. The American colonies, therefore, raised the slogan ‘No Taxation without Representation’. In 1774 CE, representatives from twelve colonies, met at a Congress at Philadelphia to protest against the British. They requested King George-III to restore their previous rights. But the King refused to do so and tried to suppress the colonies. This led to armed clashes between the British and the American soldiers.

The Second Congress also tried to find a peaceful solution. They appealed to the King not to impose taxes without their permission. They decided George Washington to be the chief of the armed forces of the colonies. The King saw this as an act of rebellion and declared war in April 1775 CE. The Americans finally won the war in October 1781 CE with the military help from France. France helped the colonies because of the rivalry between Britain and France in establishing colonial empire. The American War of Independence ended after Britain signed the Treaty of Paris in 1783 CE and recognised the independence of its thirteen colonies.

The Declaration of American Independence

The Declaration of Independence was adopted on 4th of July 1776 CE during the Third Congress at Philadelphia. Thomas Jefferson was the principal author of this Declaration. It declared that all men are created equal and are endowed by the Creator with certain rights, which cannot be taken away, including life, liberty and pursuit of happiness. In 1789 CE, the government of the United States of America adopted a Republican Constitution. The United States of America would not be ruled by kings but by representatives elected by the people.

Republic: Where the head of the state is a democratically elected president, not a monarch.

Congress: A formal meeting or series of meetings for discussion between delegates or members of a group

- Compare the results of the English and American Revolutions.
- Do you think the rights proposed by Thomas Jefferson are necessary to the present generation? Discuss.

French Revolution

In 1774 CE, Louis XVI became the king of France. He found the treasury was empty. Long years of war and the cost of maintaining the palace of Versailles had emptied the financial resources of France. Under Louis XVI, France helped the thirteen American colonies to gain their independence from Britain, who was their common enemy. This war added further to the debt. The state was forced to increase

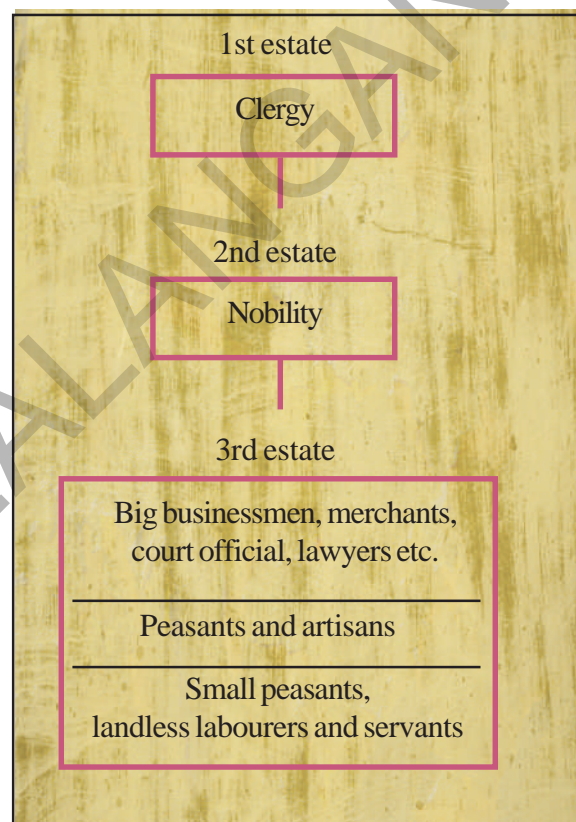
its taxes to meet its regular expenses such as the cost of maintaining the court, an army, and running government offices or universities.

Socio economic conditions

French society was divided into three estates in the eighteenth century. The first estate was the clergy. The second estate was the nobility and the third estate included the remaining sections of society such as merchants, lawyers, peasants, labourers and servants.

Peasants were about 90 percent of the total population of France. However, only a small number of them owned the lands they cultivated. About 60 per cent of the land was owned by the Church and other richer members of the Third Estate. The members of the first two estates, that is, the clergy and aristocracy, enjoyed certain privileges. They did not have to pay taxes to the state. The nobles also enjoyed other feudal privileges. These included feudal dues that peasants had to pay to them. Peasants were also forced to give other services to the lord - to work in their houses and fields and to serve in the army or participate in building roads.

The Church also extracted taxes called 'tithes' from the peasants. All the members of the Third Estate also had to pay taxes to the state. These included a direct tax, called 'taille' and a number of indirect taxes which were levied on articles of everyday consumption like salt or tobacco. The Third Estate alone had to pay taxes to finance the activities of the state. To add to this problem, there was a failure of crops and increased sufferings of the poor during those years.



A Society of Estates.

Nobility - Aristocratic and bureaucratic class.

Tithes - A tax levied by the church, comprising one-tenth of the agricultural produce.

Taille - Tax to be paid directly to the state.

Nobility - Aristocratic and bureaucratic class.

A Growing Middle Class: An End to Privileges

A new social group called the middle class came up in the eighteenth century, earned wealth through overseas trade and manufacturing of goods such as woollen and silk textiles. In addition to merchants and manufacturers, the Third Estate also included well educated professions such as lawyers and administrative officials. They were inspired by the words of philosophers like John Locke and Jean Jacques Rousseau who wanted to create a society based on freedom and equal laws and opportunities for all. In his book, **Two Treatises of Government**, Locke wrote against the belief that the monarch had absolute rights. Rousseau carried the same idea forward. He proposed that government should be based on a social contract between the people and their representatives. In the book, **The Spirit of the Laws**, Montesquieu, a philosopher, proposed that power should be divided between the legislature, the executive and the judiciary. This model of government was followed in the USA, after the thirteen colonies declared their independence from Britain. The American constitution and its guarantee of individual rights was an important example for third estate in France.

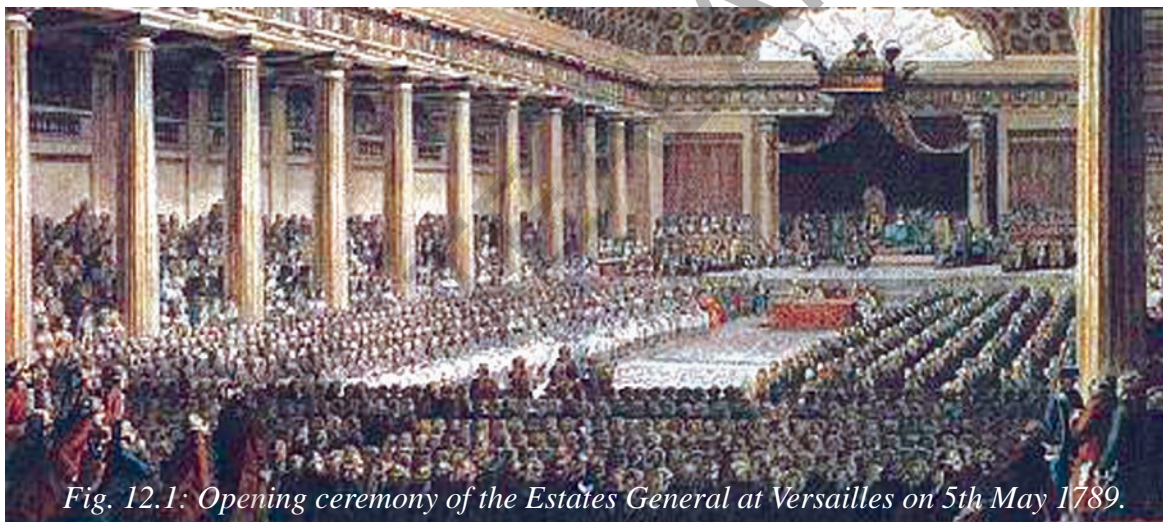


Fig. 12.1: Opening ceremony of the Estates General at Versailles on 5th May 1789.

The Outbreak of the Revolution

On 5 May, 1789 CE, Louis XVI called a meeting of the Estates General to pass proposals for new taxes. The First and Second Estates sent 300 representatives each, who were seated in rows facing each other on two sides. But, the 600 members of the Third Estate had to stand at the back. The Third Estate was represented by its more prosperous and educated members only. Peasants, artisans and women were not allowed to enter the assembly. However, their problems and demands were written down in some 40,000 letters which the representatives had brought with them.

Earlier, each estate had one vote in the voting. Louis XVI also wanted to continue the same practice. But the members of the Third Estate demanded that voting be done by the assembly as a whole, where each member would have one vote. This

was one of the democratic principles suggested by philosophers like Rousseau in his book, **The Social Contract**. When the King rejected this proposal, members of the Third Estate left the assembly in protest.

The tennis court oath

The representatives of the Third Estate felt that they were representing the whole French nation. On 20 June, 1789 CE, they assembled in the hall of an indoor tennis court in the grounds of Versailles under the leadership of Mirabeau, Abbe sieyes and Bailly. They declared themselves as a National Assembly. They swore not to go back till they had drafted a Constitution for France that would limit the powers of the monarch. While the National Assembly was busy drafting a Constitution at Versailles, there was rising chaos and disturbance in the rest of France. The crops had ruined because of extreme winter. The price of bread went up because of this. Bakers misused this situation and accumulated supplies of bread. People waited for



Fig. 12.2: *The Tennis Court Oath.*

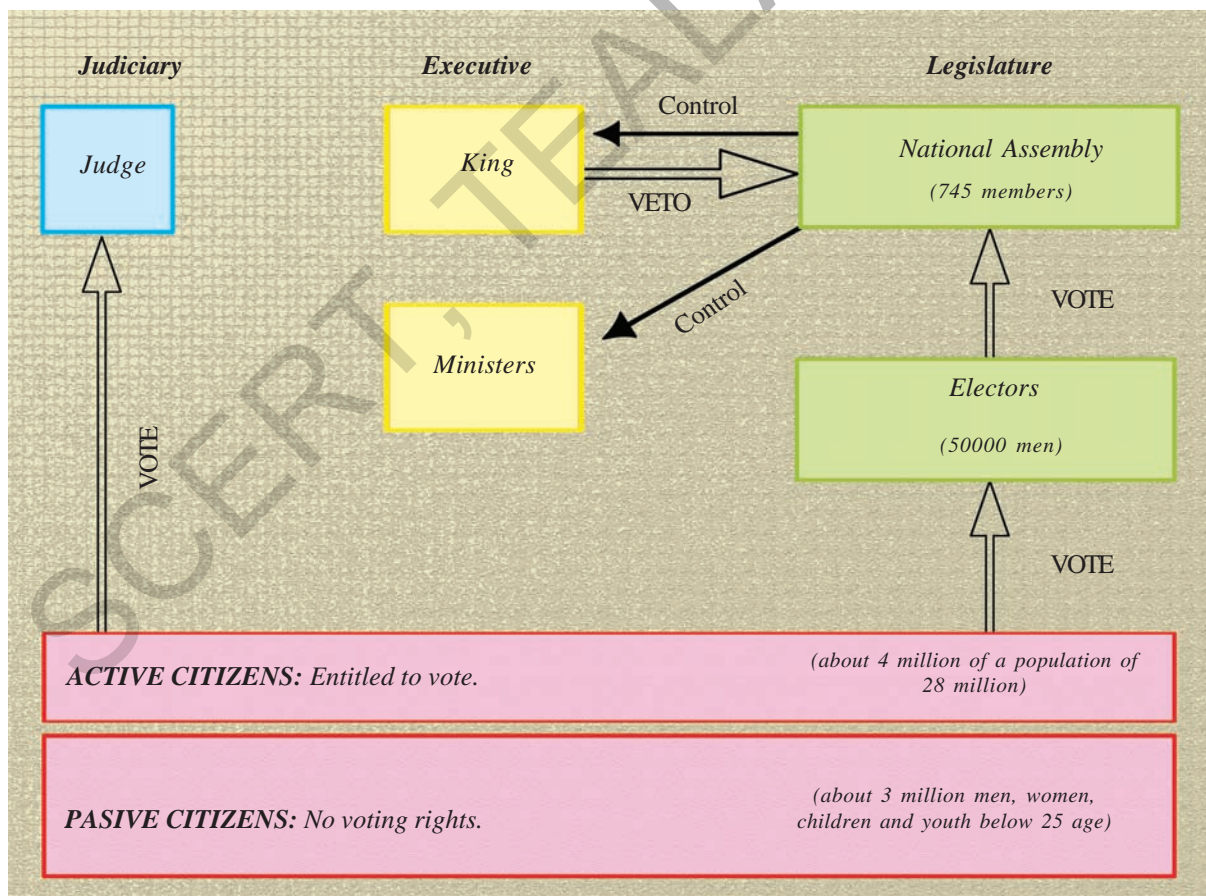
hours in long queues at the bakery. After waiting for long, crowds of angry women forcefully entered into the shops. At the same time, the King had ordered troops to move into Paris. On 14 July, the angry crowd forcefully entered and destroyed the Bastille, a hated prison that represented the complete monarchy. That day is being celebrated as the National Day of France. After seeing the power of the revolting people, Louis XVI finally gave recognition to the National Assembly. He accepted the principle that his powers would be limited by a Constitution from now on. On 4th of August, 1789 CE, the Assembly passed a law to ban the feudal system of taxes and other obligations. Members of the clergy were also forced to give up their privileges. Tithes were banned and lands owned by the Church were taken back from them.

France Becomes a Constitutional Monarchy

The National Assembly completed the draft of the Constitution in 1791 CE. Its main object was to reduce the powers of the monarch. Now these powers were not in the hands of one person. They were now separated and given to different institutions - the legislature, executive and judiciary. This made France a constitutional monarchy.

The Constitution of 1791 CE gave the National Assembly the power to make laws. But all the citizens did not have the right to vote. Only the active citizens had the right to vote. Active citizens were men above 25 years of age, who paid taxes equal to at least 3 days of a labourer's wage. The active citizens voted for a group of electors, who in turn chose the Assembly.

To become an elector and a member of the Assembly, a man had to belong to the category of highest taxpayers. The Constitution began with a Declaration of the Rights of Man and Citizen. Rights such as the right to life, freedom of speech, freedom of opinion, equality before law, were considered as 'natural and inalienable' rights. This means that the rights belonged to each human being by birth and could not be taken away. It was the duty of the government to protect these 17 citizen's natural rights.



The political system under the Constitution of 1791 CE

The Declaration of Rights of Man and Citizen



1. Men are born and remain free and equal in rights.
2. The aim of every political association is the preservation of the natural and inalienable rights of man. These are liberty, property, security and resistance to oppression.
3. The source of all sovereignty resides in the nation; no group or individual may exercise authority that does not come from the people.
4. Liberty consists of the power to do whatever is not injurious to others.
5. The law has the right to forbid only actions that are injurious to society.
6. Law is the expression of the general will. All citizens have the right to participate in its formation, personally or through their representatives. All citizens are equal before it.

7. No man may be accused, arrested or detained, except in cases determined by the law.
8. Every citizen may speak, write and print freely; he must take responsibility for the abuse of such liberty in cases determined by the law.
9. For the maintenance of the public force and for the expenses of administration a common tax is indispensable; it must be assessed equally on all citizens in proportion to their means.
10. Since property is a sacred and inviolable right, no one may be deprived of it, unless a legally established public necessity requires it. In that case a just compensation must be given in advance.

(Note: The above list is not complete. It is only a selection of ten.)

The Course of the Revolt

The reformers were not satisfied by the changes made by the National Assembly. They wanted to revolt against the National Assembly. People started coming together at political clubs to discuss government policies and plan their actions. The most successful of these clubs was that of the Jacobins, which got its name from the former convent of St Jacob in Paris. The members of the Jacobin club were small shopkeepers, artisans such as shoemakers, pastry cooks, watch-makers, printers, as well as servants and daily-wage workers.

In the summer of 1792CE, the members of the Jacobin club planned a revolt of a large number of people of Paris. They were angry because of short supplies and high prices of food. On the morning of August 10, they entered the Palace of the

Tuileries forcefully, killed the king's guards and held the king as hostage for several hours. Later, the National Assembly voted to imprison the royal family. The National Assembly was dissolved and elections were held. From then on, all men of 21 years and above, regardless of wealth, got the right to vote. The newly elected assembly was called the Convention. The elected members were Girandists, Jacobins and common people. On 21 September, 1792 CE, the Convention banned the monarchy and declared France a Republic. Louis XVI and Queen Marie Antoinette were sentenced to death in 1793 CE for treason.

The Reign of Terror

The period from 1793 to 1794 CE is known as the Reign of Terror. Robespierre, the leader of Jacobin club, followed a policy of strict control and punishment. He arrested, imprisoned and then tried all the people he saw as 'enemies' of the republic through a revolutionary tribunal. They included exnobles and clergy, members of other political parties, even members of his own party who did not agree with his methods. If the court found them 'guilty', they were guillotined. Robespierre's



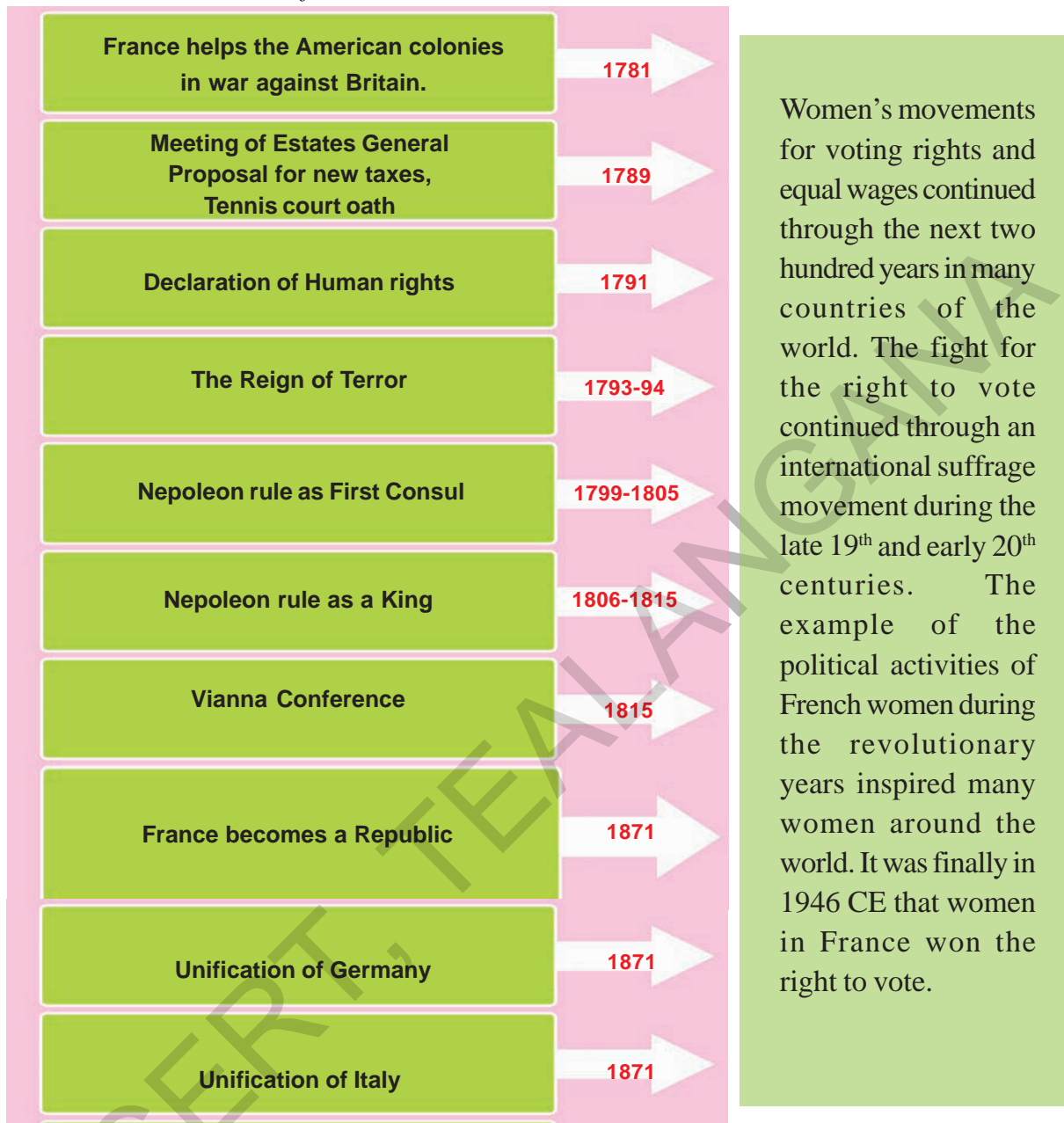
Fig : 12.3 Guillotine

government issued laws placing an upper limit on wages and prices. All the people were allowed to have only a fixed amount of meat and bread. Peasants were forced to send their grain to the cities and sell it at prices fixed by the government. The use of more expensive white flour was forbidden. All the citizens were required to eat the pain d'égalité (equality bread), a loaf of bread made of whole wheat. Churches were shut down and their buildings were converted into barracks or offices. Robespierre implemented his policies so strictly that even his supporters wanted him to relax the policies. Finally, he was convicted by a court in July 1794 CE, arrested and sent to the guillotine.

Women and French Revolution

From the very beginning, women were active participants in the events that made any important changes in French society. Most women of the Third Estate had to work for a living. Women started their own political clubs and newspapers to discuss and voice their interests. One of their main demands was that women should get the same political rights as men. Women were disappointed that the Constitution of 1791 CE made them passive citizens. They demanded for the right to vote, to be elected to the Assembly and to hold political positions.

An Outline of the French Revolution



Rule of Directory - Napoleon gets power

The National Convention framed a constitution . It led to the formation of the Directory, an executive team made up of five members, to rule France. The members were incapable, corrupt and there was no unity among them. It lost the popularity among the people. The government treasury was empty. The currency value decreased 100 percent. Unemployment increased. The people vexed by different politics, looked up for a leader who could protect the revolution and lead the country. Napoleon Bonaparte who got series of victories to France, was considered the man of hope. Napoleon finally captured power with the help of Abbe sieyes. He formed a new



Fig : 12.4 Napoleon Bonaparte

government called the consulate and ruled for five years (1799-1804 CE) as first consul. Later he declared himself the Emperor of France and ruled for another 10 years (1805-1815 CE).

The political and constitutional changes that happened because of the French Revolution led to the transfer of control from monarchy to the French citizens. When Napoleon came to power, it was a step backward. He could not remove the spirit of republic from people though he formed an empire. When Napoleon lost the battle of Waterloo in

1815 CE, Monarchy was revived in France again. Through all these changes in the forms of government, the ideals of freedom, equality and fraternity kept inspiring people. These ideals motivated political movements in France and the rest of Europe during the following century.

French Empire reached its peak under Napoleon's rule. He defeated Austria, Prussia of the Europe. He also occupied Spain and Portugal. With these victories, Napoleon turned into an Emperor by 1810 CE as the whole of Europe came under his control except England and Turkey Empire.

All the monarchic powers merged into an alliance under the leadership of England to defeat Napoleon. After many attempts, this alliance could defeat Napoleon in the battle of Waterloo in 1815 CE.

In the same year, Vienna Congress changed the political structure of Europe under the chairmanship of Metternich, the Prime Minister of Austria. Monarchy was restored in many of the kingdoms. Louis XVIII was appointed as the king of France. Charles X was succeeded by him. He tried for the revival of the special rights of the nobles and the clergy. He abolished the freedom of press and the house of representatives. Thus 1830 revolution took place and his close relative Louis Philip was appointed as the king. He failed in bringing reforms which the people wished. He prohibited the reformatory banquets with the cause of conspiracy against him. As the protests turned violent, another revolution broke out in 1848 CE and Louis Philip fled away from France. Later, the revolutionaries declared France the Second Republic. Though the Monarchy was abolished in 1848 CE, it



Map 2: Europe after the Congress of Vienna - 1815 CE.

was restored under the regime of Napoleon-III. Finally in 1871 CE, France was declared republic for the third time under the leadership of Leon Gambetta.

Unification of Germany

Till 19th century, Germany was divided into many small independent kingdoms. Once, they were part of the Holy Roman Empire. In 1806 CE, France ruler, Napoleon Bonaparte conquered these and formed Rhine Confederation with 39 kingdoms. For the first time, these kingdoms were ruled under one crown. So, the nationalistic ideas were formed in Germans. When the liberals, traditionalists and patriots tasted the nationalism, they wanted to be one nation. But, Vienna Congress, after the fall of Napoleon revived the kingdoms as earlier. A customs union called Zollverein formulated some trade rules for free trade, economic cooperation in these kingdoms. It created a feeling of unity in Germans. This economic cooperation is the first step enroute to political unity and Unification of Germany.

- In what ways do you think Napoleons conquests would have helped in the emergence of nationalism in those countries?



Fig : 12.5 Bismarck

Prussia, the biggest in German kindoms, its ruler, william I, chancellor Bismarck made possible the Unification of Germany with three battles in seven years. Bismarck followed the policy of blood and iron . He made every citizen to join compulsory military service. He strengthened the military power. He isolated Austria, Holland and France with plotted diplomatic policy and defeated.

War with Denmark:

Bismarck got the first opportunity to rouse nationalist feelings of Prussians with opening of the issue of Schleswig and Holstein with Denmark. These two states lie to the north of Germany and they were united with Denmark. These had however maintained an independent existence for the past 400 years. The people of Germany wanted these two states to come within its fold.

Eventhough it was a foe, Bismarck asked Austria for help and the combined forces of Austria and Prussia defeated Denmark and the two were entrusted to the care of Austria and Prussia. In August 1865 CE, Austria was given control over Holstein and Prussia was given to administer Schleswig.

Austro-Prussian War :

Bismarck now carefully and skilfully worked towards a war between Prussia and Austria. He wanted that Prussia should win in the war. He wanted Austria to be alone and without friends. He had already won Russia's friendship. He made friendship with Napoleon of France and requested him for a neutrality in the case of Prussian war with Austria. In return for this, Bismarck promised France that they would accept for the French expansion towards Rhine. He also won Italian support to give Venicia to Italians in case of Prussian victory over Austria.

When Austria brought Schelswig and Holstein question before the German diet, Bismarck objected for the Austrian move and called it a breach of trust by Austria and moved Prussian forces into Holstein.



Map 3: Unification of Germany (1866-1871 CE)

Austria regarded Prussia as the aggressor and asked federal diet to send federal forces against Prussia. A war broke out on 3rd July 1866 CE and Austria was defeated in the hands of Prussia. Austria had to withdraw back, for Austrian troops of about 150,000 were sent to defend Venicia against Italians. Thus, with the army divided, Austria was defeated at Sadova. Prussians marched towards Vienna. Schleswig, Holstein, Hanover, Hesse-Cassel and parts of Hesse-Darm-Stadt and the city of Frankfurt were annexed by Prussia. All these were the parts of North German Confederation.

The southern states Bavaria, Baden, Wurttemberg and Hesse -Darm-Stadt retained their independence. These states were afraid of Napoleon-III of France, who wanted to expand towards Rhine.

Franco-Prussian War:

Napoleon-III, the ruler of France found his position weakened. He failed to take advantage of Austro-Prussian war. In order to save his face, Napoleon-III began to demand compensation for his neutrality in the Austro-Prussian war. Bismarck gave a vague promise to Napoleon-III of his permission to expand towards Rhine. But Bismarck was not willing to offer any compensation to France. There was now the only course open for Napoleon-III and it was war. Bismarck also wanted war with France. Bismarck thought that France would not accept and tolerate the German

Unification. Hence, Bismarck wanted a war with France. Thus, we find both France and Prussia were bent upon war. The governments also working towards it. The immediate cause for the war was found in Spanish succession.

In 1863 CE, the Spanish people being fed up with their ruler, Isabella, removed from her throne and offered it to Leopold, who was a very close relative of the Prussian king, for which France raised serious objections. On account of this Leopold declined the offer. But Napoleon-III not satisfied with this wanted to get a promise from Prussian King that he would not interfere in the Spanish succession affair. The Prussian king rejected the wish of Napoleon-III and sent the whole message through a telegram from the city of Ems to Bismarck who was stationed at Berlin. The content of the telegram was manipulated by Bismarck in such a way that it would create hatred between the people of Prussia and France against each other. This resulted in a war between France and Prussia. The war lasted for six months. Prussian forces defeated French forces and Napoleon-III having been terribly lost in several battles surrendered to Prussians with about one lakh soldiers.

Victorious Prussians marched right into the French capital, Paris and declared the emergence of a United Germany and coronated William I as the first United German Emperor. The Franco-Prussian war ended with the signing of the treaty of Frankfurt. The treaty gave Alsace and Lorraine to Germany thus the unification of Germany was accomplished by 1871 CE.

- What might be the consequences with the Bismarck's plotted diplomacy?

Unification of Italy

Like Germany, Italy also had a long history of being politically broken down into small parts. Italians were scattered over many dynastic states as well as the multi-national Habsburg Empire. During the mid 19th century, Italy was divided into 7 states of which only one, Sardinia-Piedmont, was ruled by an Italian princely house.

The north was under the Austrian Habsburgs, the centre was ruled by the Pope and the southern regions were dominated by the Bourbon kings of Spain. Even the Italian language did not have one common form and still had many regional and local variations.

During the 1830s, Giuseppe Mazzini had tried to put together a programme for uniting Italy into an Italian Republic. He had also formed a secret society called Young Italy for achieving this goal. But, the revolution in 1830 and 1848 CE had failed. This meant that now Sardinia-Piedmont, under its ruler King Victor Emmanuel II, had to unify the Italian states through war. The ruling elites of this region felt that if Italy was united, they would have more political dominance and economic development.



Prime Minister Cavour, who led the movement to unify the regions of Italy, made a tactful diplomatic alliance with France that he had designed. With the result, Sardinia-Piedmont succeeded in defeating the Austrian forces in 1859 CE. In 1860 CE, apart from regular troops, a large number of armed volunteers called Red Shirts, under the leadership of Giuseppe Garibaldi, entered South Italy and the Kingdom of the Two Sicilies. They drove out the Spanish rulers with the help and support of the local peasants. When France withdrew its troops from Rome, during the Franco Prussian war in 1870 CE, Victor Emmanuel II occupied it and completed the Unification of Italy. In 1871 CE, Victor Emmanuel II was proclaimed the king of united Italy.

Keywords

- | | | |
|------------------------|-----------------|---------------|
| 1. Glorious Revolution | 2. Divine right | 3. Liberalism |
| 4. Monarchy | 5. Nationalism | 6. Fraternity |
| 7. Despotism | 8. Romanticism | 9. Directory |

Improve your learning



1. Identify the name of the country in the context of following statements: (UK, USA and France)
 - revolution where parliament system was established.
 - country where king continues to play some role even after revolution.
 - country that had to war against another in order to establish its democracy.
 - The Bill of rights was adopted.
 - Overthrow of the monarchy was led by the peasants.
 - The Declaration of Rights of Man and Citizen was adopted.
2. What were the main ideas of social thinkers, which were significant to the establishment of new forms of governments? How did they gain popularity?
3. Describe the circumstances leading to the outbreak of revolutionary protests in France.
4. Would you agree with the view that the message of universal rights was beset with contradictions? Explain.
5. What made the American colonists to raise the slogan 'No Taxation without Representation'?
6. How do you understand women's role in French Revolution?
7. Read the para under the title 'The Reign of Terror' of page 158 and comment on it.
8. Briefly explain the process of the unification of Germany.
9. Locate England, France, Prussia, Spain, and Austria on the Map of Europe.

Project

Learn something more about the different personalities who played an important role in American and French revolution. Which of them impresses you the most and why? Write a paragraph on him/ her.

**Industrialisation and
Social Change**

The economy and industries in Britain changed completely between the 1780s and the 1850s. This phase is known as the ‘first Industrial Revolution’. The term ‘Industrial Revolution’ was used by European scholars – Georges Michelet in France and Friedrich Engels in Germany. It was used for the first time in English by the philosopher and economist, Arnold Toynbee (1852-83 CE), to describe the changes in British industrial development between 1760 and 1820 CE. This revolution had widespread effects in Britain. Later, similar revolutions also happened in European countries and the USA. These changes were going to have a major impact on the society and economy of these countries as well as the rest of the world. However, industrialisation in different countries was different from each other, depending upon the country’s historical, social and geographical features. This chapter outlines some important changes in the cotton and iron industries in Britain.



Fig. 13.1: Industries in London at the time of Industrial Revolution.

When industrial development started in Britain, new machinery and technologies were invented. Because of the new machinery and technology, it was now possible to produce goods on a large scale as compared to handicraft and handloom industries where production was small scale. British industries had now started using steam, a new source of power for their production. Use of steam power made the modes of transportation, like ships and railways, faster. Many of the inventors and businessmen who made these inventions were neither personally wealthy nor educated in basic sciences like physics or chemistry.

Industrialisation brought great prosperity for many people. But, initially, it was linked with poor living and working conditions of millions of people, including

- What were the difficulties faced by women and children during industrial revolution?

women and children. After many protests, the government was forced to make laws for improving the conditions of work.

Why Britain?

Britain was the first country to experience modern industrialisation. Historians ask the question, why did the Industrial Revolution begin there in the 1750s? What enabled Britain to industrialise? We can think of many reasons for this.

i. Political Stability and Unified

Market: Britain had been politically stable since the seventeenth century, with England, Wales and Scotland unified under a monarchy. This meant that the kingdom had common laws, taxation and a single currency. This enabled Britain to have a market that was not fragmented by local authorities levying local taxes on goods that passed through their area, thus increasing their price. By the end of the seventeenth century, money was widely used as the medium of exchange. By then a large section of the people received their income in the form of wages and salaries rather than in goods. This gave people a wider choice for ways to spend their earnings and expanded the market for the sale of goods. By the end of 17th century, Britain had a parliamentary government which was favourable to commercial and industrial classes. It pursued policies which enabled the growth of trade and industry in England.

ii. Agricultural Revolution: Between 1600 and 1800 England had gone through a process called the 'agricultural revolution'. This was the process by which bigger landlords took over small farms of peasants and enclosed village common lands. They used new methods of cultivation and animal rearing to produce for market. In this manner they created very large estates and increased food



Map 1: Britain (England): The Iron Industry

production. This forced landless farmers, and those who had lived by grazing animals on the common lands, to search for jobs elsewhere. Most of them went to nearby towns.

iii. Towns, Trade and Finance: From the eighteenth century, many towns in Europe were growing in area and in population. The population of at least 11 British towns doubled between 1750 and 1800. The largest of them was London, which served as the hub of the country's markets. London had also acquired a global significance. It had become the centre of international trade between Europe, Africa, America and India.

In England the movement of goods between markets was helped by a good network of rivers, and an indented coastline with sheltered bays. Until the spread of railways, transport by waterways was cheaper and faster than by land. Most of Britain's rivers were navigable (small ships and boats could go up them), cargo on river vessels was easily transferred to coastal ships.

The centre of the country's financial system was the Bank of England (founded in 1694). By 1784, there were more than a hundred provincial banks in England, and during the next 10 years their numbers trebled. By the 1820s, there were more than 600 banks in the provinces, and over 100 banks in London alone. The financial requirements to establish and maintain big industrial enterprises were met by these banks.

iv. Colonies: By the middle of 18th century, Britain had extensive colonies in North America and was beginning to establish control over large parts of India. The colonies provided Britain with a large market for its industrial produce and also supplied it with raw materials like cotton and also food grains. Colonial conquest and trade provided British merchants and banks with a large amount of capital, which could be invested in industries.

Industrialisation requires certain preconditions. Firstly, it requires the concentration of wealth in the hands of those who want to invest money in production and earn profits. As we saw such concentration of wealth took place due to 'agricultural revolution' and colonial conquest and trade. Investible capital was provided by the growth of banking institutions in Britain.

Secondly, it requires availability of workers who are willing to work for low wages. Again we saw how the 'agricultural revolution' forced a large part of the rural population to go to the towns in search of work.

Thirdly, it requires a large market to sell its products. This was provided first by the political unification of Britain and by ending of self-sufficient peasant farms.

The peasants now became workers who had to buy all their requirements from the market instead of producing them on their own farms. Market was also provided by the colonies.

Fourthly, Industrialisation requires cheap raw materials and efficient transport infrastructure. In addition to all this it requires a rapid development of technology and adoption of the new technology in production. We shall see below how this happened.

- Discuss the developments in Britain and in other parts of the world in 18th century that encouraged British Industrialisation.

Technological Developments: Coal & Iron, Spinning & Weaving, Transport

Coal and Iron

Iron and steel are vital for industrialisation and coal is essential not only to generate power but also for making steel. England was fortunate that coal and iron ore, the staple materials required for mechanisation, were available in large quantity. Even other minerals like lead, copper and tin that were used in the industries were easily available. However, until the eighteenth century, usable iron was not easily available. Iron is extracted as pure liquid metal from the ore by a process called smelting. For centuries, charcoal (from burnt timber) was used for the smelting process. This had several problems: it was difficult to transport charcoal across long distances because it was too fragile. Secondly, due to impurities it could not generate high temperatures. Hence, the quality of iron produced was poor. Thirdly, charcoal was produced by burning trees in the forests. As the forest area got reduced, the supply of charcoal too got reduced.



Fig. 132: The Cast Iron Bridge near Coalbrookdale, designed by the third Darby.

British iron smelters built upon a long tradition of metallurgy practiced all over the world, especially India. As you may know Indian iron smelters produced some of the finest quality steel in those times.

After a long study and experimentation, a solution to the problem of steel-making was developed by a family of iron-masters, the Darbys of Shropshire. Within half a century, three generations of this family – grandfather, father and son, all called Abraham Darby – brought a revolution in the metallurgical industry. In 1709 CE, the first Abraham Darby (1677-1717 CE) invented a blast furnace that would use coke which could generate high temperatures. Coke was derived from coal by removing the sulphur and impurities. This invention meant that furnaces no longer had to depend on charcoal. The melted iron that came from these furnaces permitted finer and larger castings than before.

The process was further refined by more inventions. The second Darby (1711-68 CE) developed wrought-iron (which was less brittle) from pig-iron. Henry Cort (1740-1823 CE) designed the puddling furnace (in which impurities would be removed from molten iron) and the rolling mill, which used steam power to roll purified iron into bars. It now became possible to produce a large range of iron products. Since iron was durable, it was a better material than wood for everyday items and for machinery. Unlike wood, which could burn or splinter, the physical and chemical properties of iron could be controlled.

Britain was lucky that it had excellent coking coal and high-grade iron ore available in the same basins or even the same seams. These basins were also close to ports. There were five coastal coalfields which could deliver their products almost straight into ships. As a result, ship building and the shipping trade increased.

- Why is high quality steel and iron necessary for industrialisation? Discuss in the class.
- Why do you think the mining of iron ore and coal received equal importance?
- Why do you think the early industrial centres were situated near the iron and coal mines?

The British iron industry increased its output four times between 1800 and 1830 CE, and its product was the cheapest in Europe. In 1820 CE, a tonne of pig iron needed 8 tonnes of coal, but by 1850 CE, it could be produced by using only 2 tonnes. By 1848 CE, Britain was smelting more iron than the rest of the world put together.

Cotton Spinning and Weaving

The British had always woven cloth out of wool and flax (to make linen). Since the seventeenth century, the country had been importing bales of cotton cloth from India at a high cost. As East India Company's political control in parts of India was established, it began to import raw cotton along with cloth. This raw cotton could

- Write two important inventions which revolutionised the textile industry.

be spun and woven into cloth in England itself.

Till the early eighteenth century, spinning had been so slow and laborious that a single weaver worked on the yarn produced by 10 spinners. Therefore, while spinners were busy spinning all day, weavers waited idly for the yarn. But with new technological inventions, the time gap was reduced between spinning of raw cotton into yarn or thread, and weaving the yarn into fabric. These industries were heavily dependent on the work of women and children in factories. To make it even more efficient, production was gradually shifted from the homes of spinners and weavers to factories.

From the 1780s, the cotton industry symbolised British industrialisation in many ways. This industry had two features which were also seen in other industries. Raw cotton was entirely imported and a large part of the finished cloth was exported to other countries. Britain had its control over the sources of raw cotton as well as the markets where they sold cloth. This helped to increase its control over the colonies.



Map 2: The cotton industries in Britain.

Steam Power

Steam power was first used in mining industries. As the demand for coal and metals increased, people made more efforts to obtain them from deeper mines. Flooding in mines was a serious problem and steam engines were used to drain the water from the mines. But the technology was still not useful on a large scale.

James Watt's (1736-1819 CE) invented a new steam engine. This invention

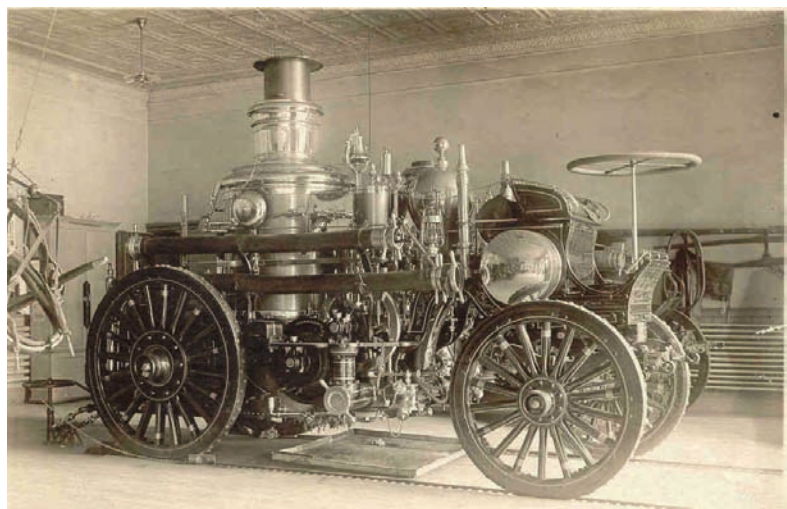


Fig. 13.3: James Watt's Steam Engine.

converted the steam engine from a mere pump into a 'prime mover'. He made the steam engine capable of providing energy to power machines in factories. With the help of a wealthy manufacturer, Matthew Boulton (1728- 1809 CE), Watt created the Soho Foundry in Birmingham in 1775 CE. At the foundry, James Watt's steam engines were produced in growing numbers. By the end of the eighteenth century, Watt's steam engine was beginning to replace hydraulic power. In 1840 CE, British steam engines were generating more than 70 per cent of all European power.

Transportation

Because of growing industrialization, there was increased need to transport raw materials and manufactured products. For this, the roads were improved and the digging of canals was done in England. Mc Adam devised the method of making 'pakka' or 'macadamised' roads.

Canals were initially built to transport coal to cities. This was because coal was very heavy and required in large quantities. So, its transport by road was much slower and more expensive than by boats on canals. The demand for coal as industrial energy and for heating and lighting homes in cities was increasing. The first English canal, the Worsley Canal (1761 CE), was built by James Brindley (1716-72 CE). It was built to carry coal from the coal deposits at Worsley (near Manchester) to that city. After the canal was completed, the price of coal fell by half. Thousands of kilometres of canals were built by 1830 CE and were used to transport commodities cheaply. They were mostly built by landowners to increase the value of their properties.

The first steam locomotive, Stephenson's Rocket, was made in 1814 CE. Railways was the new means of transportation that was available throughout the year. It was both cheap and fast and it could carry passengers and goods. They combined two inventions; the iron track replaced the wooden track in the 1760s, and the power of the steam engine.

The invention of railways took the process of industrialisation to its second stage. The first railway line connected the cities of Stockton and Darlington in 1825 CE, a distance of 9 miles that was completed in two hours at the speed of up to 5 mph. The next railway line connected Liverpool and Manchester in 1830 CE. Within 20 years, trains had started moving at the speed of 30 to 50 miles an hour.

In the 1830s, the use of canals revealed several problems. Too many large ships made the movement on canals slow. Another problem was if there was frost, flood or drought in the canal, the ships could not use it.

Who were the inventors?

It is interesting to read about the individuals who brought these changes during industrialisation. Few of them were trained scientists. Education in basic sciences like physics or chemistry was extremely limited until the late nineteenth century, even after the technological inventions described above. Since these inventions did not require a full knowledge of the laws of physics or chemistry on which they were based, advances in science could be and were made by brilliant, intuitive thinkers and experimenters. They were helped by the fact that England had certain features which other European countries did not. Dozens of scientific journals and published papers of scientific societies appeared in England between 1760 and 1800 CE. There was a widespread thirst for knowledge even in the smaller towns. This was met by the activities of the Society of Arts (founded in 1754 CE), by travelling lecturers, or in 'coffee houses' that multiplied through the eighteenth century.

Most inventions happened because of determination, interest, curiosity, even luck, rather than the application of scientific knowledge. Some inventors in the cotton industry, like John Kay and James Hargreaves, were familiar with the skills of weaving and carpentry. Richard Arkwright, however, was a barber and wig-maker, Samuel Crompton was not technically skilled and Edmund Cartwright studied literature, medicine and agriculture, initially wished to become a clergyman and knew little of mechanics.

By contrast, in the area of steam engines, Thomas Savery, an army officer, Thomas Newcomen, a blacksmith and locksmith, and James Watt, with a strong mechanical bent, all had some knowledge relevant to their inventions. The road-builder, John Metcalf, who personally surveyed surfaces for roads and planned them, was blind. The canal builder James Brindley was almost illiterate, with such poor spelling that he could never spell the word 'navigation', but he had tremendous powers of memory, imagination and concentration.

Competition, Technological Change and Workers

Industrial Revolution also gave birth to a peculiar system of production. We saw that factories were set up using machines which were worked by labourers who were hired by the factory owners. They also bought raw materials from distant places, and sold their produce in distant markets. Through this process they earned profits. However, at any time there are many factory owners. Each of them tries to sell maximum to earn maximum profit. To attract more customers they try to sell the product cheaper than others. Thus they compete with each other in the market. In order to keep the prices low they cut costs by rationally using all the raw materials, machines and workers and also by using new technologies or machines which can produce more at less cost. The use of new machines enables the factory owners to produce more by employing fewer workers and thus cuts down the cost and also

helps in improving the quality of the product. Thus factory owners in order to be able to sell in the market, have to invest a part of their profit in new technology. In the long run, this leads to technological development in the society. At the same time many workers lose their jobs and have to seek employment elsewhere. Often since many factory owners are producing for the market, there may be overproduction. There would be too much of a produce, which no one wants to buy. In such situations, the owners cannot sell their produce to recover the money they have invested. They stop production, dismiss the workers so that they don't have to waste more money. Workers have to look for new employment or wait for the demand for the old product to pick up to be re-employed.

We can thus see how in a capitalist system of production, competition among factory owners leads to both technological development and also to unemployment for workers. Often, the new technology may lead to setting up of new industries, in which case the dismissed workers can find new work. However, if not many new factories are being set up, then the workers will face unemployment for a long time.

Changed lives

In this period, it was possible for talented individuals to bring revolutionary changes in science and technology. Similarly, there were many rich individuals who took risks and invested money in industries in the hope of making profits and 'multiplying' their wealth. In most cases, this money – capital – did multiply. Wealth increased dramatically, in the form of goods, incomes, services, knowledge and productive efficiency.

At the same time, there was a massive negative human cost. Families were breaking down, life in the cities was degrading and people had to work under horrible working conditions in factories. In 1750 CE, there were just 2 cities with a population of over 50,000 in England. But, by 1850 CE there were 29 such cities



Fig. 13.4: (A) Coalbrookdale, Carpenters' Row, cottages built by the company for workers in 1783 CE; (B) The houses of the Darbys; painting by William Westwood, 1835 CE.

with a population of over 50,000. But there was not enough arrangement for housing, sanitation or clean water for the rapidly growing urban population. Newcomers were forced to live in overcrowded slums in the central areas of towns near factories. The rich people escaped this situation, by shifting their homes to the suburbs where the air was clean and the water safe to drink.

The Workers

A survey in 1842 CE revealed that the average lifespan of workers was lower than that of any other social group in cities: it was 15 years in Birmingham, 17 in Manchester, 21 in Derby. In the new industrial cities, people died at a younger age than in the villages. Half the children failed to survive beyond the age of five. The increase in the population of cities was because of immigrants, rather than by an increase in the number of children born to families who already lived there.

Deaths were primarily caused by epidemics of disease like cholera and typhoid that spread from the pollution of water, or tuberculosis from the pollution of air. More than 31,000 people died from an outbreak of cholera in 1832 CE. Until late in the nineteenth century, municipal authorities did not pay any attention to these dangerous conditions of life. People did not have the medical knowledge to understand and cure these diseases.

Women, Children and Industrialisation

The Industrial Revolution brought many important changes in the way children and women worked. In the rural areas, children usually worked at home or in the farm under the watchful eye of parents or relatives. They did jobs that changed during the day or between seasons. Similarly, in villages, women were actively involved in farm work; they looked after the livestock, gathered firewood and spun yarn on spinning wheels in their homes.

But in the factories, they had to work for long hours without a break. They did the same kind of work under strict discipline and sharp forms of punishment. The women and children were forced to work to supplement men's meagre wages. As the use of machinery spread, fewer workers were needed. Industrialists now preferred to employ women and children because they would easily agree to work in poor working conditions and for lower wages than men.

Women and children were employed in large numbers in the cotton textile industry in Lancashire and Yorkshire. Women were also the main workers in the silk, lace-making and knitting industries, as well as (along with children) in the metal industries of Birmingham. Machinery like the cotton spinning jenny was designed to be used by child workers with their small fingers and bodies. Children worked in textile factories because they were small enough to move between tightly packed machinery. The long hours of work, including cleaning the machines on Sundays, allowed them no fresh air or exercise. Children sometimes caught their



Fig. 13.5 : Woman in gilt-button factory, Birmingham. In the 1850s, two thirds of the workforce in the button trade was women and children. Men received 25 shillings a week, women 7 shillings and children one shilling each, for the same hours of work.

hair in machines or crushed their hands. Some even died when they fell into machines as they dropped off to sleep from exhaustion.

Coal mines were also dangerous places to work in. Roofs caved in or there could be an explosion, and injuries were common. The owners of coal mines used children to reach deep coal faces where the path was too narrow for adults. Younger children worked as ‘trappers’ who opened and shut doors as the coal wagons travelled through mines, or carried heavy loads of coal on their backs as ‘coal bearers.’

Factory managers considered child labour to be an important training for future factory work. The British factory records reveals that about half of the factory workers had started working when they were less than ten years old and 28 per cent, when they were under 14. Though women got financial independence and self-esteem from their jobs; but had to tolerate humiliating terms of work. They lost the children at birth or in early childhood and had to live in squalid urban slums.

- Mention two important industrialisation effects on women and children’s life.

Industrialisation in Germany and France

While industrialisation began early in England in the 18th century, it was not until 1850s and 1870s that industrial production became prominent in Germany and France. As you may remember, Germany was not united till 1870 CE and France was facing wars and revolutions. Unlike Britain, which had extensive colonies, Germany and France did not have colonies and access to colonial resources. Thus they had to make up for these disadvantages.

In both the countries, industrialisation increased with the introduction of railways in 1830s. Railways increased trade, communication and economic growth.

By 1850 CE, various German states had constructed half as many railways as Britain and twice as many as France.

- Discuss the effects of early industrialisation on British town and villagers and compare these with similar situation in India.

Prussia exploited its rich coalfields (Silesia and the Rhineland -the Ruhr) and iron deposits (Bohemia) in order to create a flourishing steel industry. Alfred Krupp had established a small iron foundry at Essen in 1810 CE. By 1870 CE, Krupp of Essen, had been transformed into a giant company with its railway locomotive and armaments production. They employed thousands of workers and made a fortune for the Krupp family. The invention of the electric dynamo by Werner Siemens in 1866 CE laid the foundation of a new electrical industry in which Germany would lead the world. The defeat of France in 1870 CE and the creation of a united Germany in 1871 CE stimulated industrialisation even further. The new politically united Germany could now exploit the rich iron-fields of Lorraine taken from France.

Condition of child labourers

The horrible condition of child labourers is stated in the evidence collected by a committee of British Parliament in 1816 CE. The following information was collected from a one-time master of apprentices in a cotton mill. He was asked questions by the committee on the condition of child labourers in his factory.

'At what age were they taken?'

'Those that came from London were from about eight or ten to fifteen.'

'Up to what period were they apprenticed?'

'One-and-twenty.'

'What were the hours of work?'

'From five O'clock in the morning till eight at night.'

'Were fifteen hours in the day the regular hours of work?'

'Yes.'

'When the works were stopped for the repair of the mill, or for any want of cotton, did the children afterwards make up for the loss of that time?'

'Yes.'

'Did the children sit or stand to work?'

'Stand.'

'The whole of their time?'

'Yes.'

'Were there any seats in the mill?'

'None. I have found them frequently upon the mill-floors, after the time they should have been in bed.'

'Were any children injured by the machinery?'

'Very frequently.'

German government encouraged industrialization in Germany by providing a large

- Compare the industrialisation in Germany and France. Identify similarities and differences.
- Why do you think France lagged behind in industrial development?
- What factors enabled Germany to outstrip England and France in industrialisation?

market for its industries, building roads and railways and developing mines. The German army required large quantities of arms and ammunitions. So, many leading industrialists focused on the armament industry. The government also controlled working class movement and provided many social benefits and insurance for the workers. This enabled the factory owners to control their workers and pay less.

German industry also benefitted from the technical developments achieved by Britain and USA. They borrowed the new technology which other countries had developed over a long time. For this they needed heavy capital investment which they received from large banks. Thus, German industries developed as large units and were bigger than British industries in size and scope.

German industrialisation initially had competition with the Britain in many key sectors like cotton textiles and machine building. However, soon Germany developed iron and steel, chemical and electrical industries which were new generation industries and overtook Britain in these areas. By the beginning of 20th century, Germany had developed a powerful industrial base. It was challenging Britain as Europe's major industrial power. Britain was still producing more coal, but Germany was producing more steel. What was worrying for Britain and France was that a great proportion of this industrial production was used to build up Germany's military and naval power.

France, in contrast, was slow in industrialising. Even by the end of the 19th century, France remained a rural country with a large majority of people cultivating small plots of land. Manufacturers found it more profitable to give out work to rural workers who worked at home rather than to set up factories in towns. Such rural domestic production began to decline after 1850CE resulting in economic adversity for the people. Machines in towns began to do most of the work and only delicate hand work was given out to rural workers. French industrialisation was

The Krupp Family

The Krupp family established what was going to become the world's largest arms factory. This first factory specialised in field gun manufacture and, by 1887, it supplied arms to forty six different countries.

During World War I, the Krupp factories made guns for the German artillery.

The Krupps supported Hitler in the German general election of 1933 CE. As Nazi Germany occupied neighbouring countries, Alfred Krupp seized new land to make more factories. Many of these factories used slave-labour from the Nazi concentration camps.

also a result of the spread of railway and road networks after 1860 CE which created a wide market for its industrial goods.

France also did not develop Banks which could mobilise large amount of capital and lend them to industrialists. As a result, most of French manufacturers depended upon family resources. They remained small companies as a result. It also made them slow in adopting new ideas and technologies.

Heavy industries based on iron and coal also developed very slowly in France as it did not have good reserves of coal. France had to depend upon expensive imports for coal. Thus, French industrialisation remained focused on consumer products like textiles, which were basically small scale enterprises. This was in contrast to the German and British Industrial situation where heavy industries predominated.

Keywords

1. Industrialisation
2. Industrial Revolution
3. Steam Power
4. Hydraulic Power

Improve your learning



1. Write two sentences each on the following aspects in the context of Industrial revolution:
 - a) Technology
 - b) financing and money
 - c) Agriculture revolution
 - d) transport systems
2. What do you think is special about inventions happening during the industrial revolution?
3. How were the lives of different classes of British women affected by the industrial revolution?
4. What were the relative advantages of canal and railway transportation?
5. Locate the places where iron and textile industries are mainly concentrated in England during industrial revolution.
6. Prepare a table on inventions during the time of Industrial Revolution.
7. Read the para under the title 'The Workers' of page 176 and comment on it.

Project

Mention the consequences of the industrial revolution in the economic field. Write a report and present it in your class.



Industrialisation and the emergence of nation states changed the lives of people in very basic ways. It changed the way people worked, their access to necessities of life and dignity, their relationship with their own work and its products, their families and neighbourhood. For many people, especially the poor peasants, crafts persons and industrial workers, it brought an end to dignified and secure life. They were now forced to work in factories with hundreds and thousands of other workers under the control of unsympathetic foremen and managers. They did not have any



Fig. 14.1: Lane in poorer quarters of London. French artist Dore 1876.

awareness about what they produced, when and how they worked. The wages were very low and the work was not permanent. This created a lot of dissatisfaction and unhappiness among the people. Things became especially difficult when the factory owners cut down wages, reduced the number of workers or increased workload on them.

In the early decades of industrialization, the new political ideas of French Revolution (1789-94 CE) were also spreading simultaneously. People could take mass actions like protest with the help of the movements for 'liberty, equality and fraternity'. These movements helped in the creation of democratic institutions like the French parliamentary assemblies of the 1790s. They also reduced the difficulties of war by controlling the prices of necessities like bread.

Industrialisation also deeply troubled artists and intellectuals. Human values associated with agricultural or craft production and community life of villages were lost. The focus was on reason, science and technology rather than feelings and emotions. The impact of large scale industrialisation and poverty of the working people left a deep mark on the minds of the people. Some of them studied economics and social history to understand the challenges of industrialisation. Others turned to poetry and art for inspiration for alternative virtues.

Industrialisation also gave birth to new social groups that wanted to play an important role in the society. Now, the power and influence was in the hands of industrial capitalists and large landowners. The working class movements were becoming more organised. Workers realised their power when they united. They now understood that if they came together, they could bring the entire economy to a standstill. They were also inspired by the ideas of French Revolution and Socialism. Similarly, women, who were confined to homes till then, came out and demanded equal status and role in society, economy, polity and culture. They often joined other social movements like socialism and democratic nationalism to ask for their own rights.

In this chapter, we will look at some of these developments and understand how they influenced the course of modern world, especially India.

- In what ways do you think ideas of liberty, equality and fraternity would have helped to inspire protest movements?
- Do you think people have achieved these three ideals in the 21st century?
- Do you see any social movements which are still inspired by these ideas around you?

Early Worker's Movements in England

In England, political protests against the cruel working conditions in factories were increasing. The working population was demanding for the right to vote. The government tried to repress them. They made new laws that denied people the right to protest.

England had been fighting a war with France for a long time – from 1792 to 1815. Trade between England and Europe was disrupted. Factories were forced to shut down. Unemployment was growing and the prices of essential items of food, like bread and meat, increased beyond the level of average wages. In 1795, the Parliament passed two Combination Acts which made it illegal to ‘incite the people by speech or writing to hatred or contempt of the King, Constitution or Government’. It also banned unauthorised public meetings of more than 50 persons. Even then, protest against ‘Old Corruption’ continued. The term, ‘Old Corruption’, was used for the privileges that the monarchy and Parliament had. Members of Parliament – landowners, manufacturers and professionals – were against giving the right to vote to the working population. They supported the Corn Laws, which prevented the import of cheaper food until prices in Britain had risen to a certain level.

- Why do you think the landowners supported the Corn Laws and workers would be against them? In India too, such laws which protected our farmers from competition from import of cheap agricultural products are being ended. Do you think such imports will benefit the poor people in India?

The workers came together in towns and factories and protested in anger and frustration. There were bread or food riots throughout the country from the 1790s onwards. Bread was the staple item in the diet of the poor. Its price governed their standard of living. People seized large stocks of bread and sold them at an affordable and morally correct price rather than at the high prices charged by profit-hungry traders. Such riots were particularly common in the worst year of the war, 1795, but they continued until the 1840s.

Another process known as 'enclosure' caused problems for the people. From the 1770s, hundreds of small farms had been merged into larger ones under powerful landlords. The poor rural families who were affected by this had to start working in industries. But, when machines were brought into the cotton industry, thousands of handloom weavers were thrown out of work and into poverty. Their work was too slow as compared with the machines.

From the 1790s, these weavers began to demand a legal minimum wage, which was refused by Parliament. When they went on strike, they were dispersed by force.

- To what extent do you think breaking the machines helped the workers?
- The government passed a law which gave capital punishment to those who broke machines. Do you think this was justified?
- When new machines are brought in a factory, some workers are usually rendered jobless. Why do you think this happens? Can there be ways of improving technology without creating unemployment for workers?

Out of frustration, the cotton weavers in Lancashire destroyed the power looms which they believed had destroyed their livelihood. In Yorkshire, croppers, who had traditionally sheared sheep by hand, destroyed shearing-frames. In the riots of 1830, farm labourers found that their jobs could be taken away by the new threshing machines that separated the grain from the husk. The rioters smashed these machines. Nine of them were hanged and 450 were sent to Australia as convicts.

Luddism

The protest movement known as Luddism (1811-17) was led by the charismatic General Ned Ludd. Luddism was not only an assault on machines. Its participants demanded a minimum wage. They also wanted control over the labour of women and children. They demanded for work for those who had lost their jobs because of the coming of machinery. They also asked for the right to form trade unions so that they could legally present these demands. The workers still did not have any powerful trade union to fight for their rights. They fought by threatening to damage the machines and stocks of the factory owners. In many cases, the factory owners agreed to negotiate with the workers and offered better working conditions. Workers and many middle class persons like shop keepers and master craftsmen thought

that the machines were unnecessary. They felt that the machines were being introduced to take away their livelihoods. Hence, there was much social support to such protests. In many places, the radical workers worked spontaneously in the name of General Ludd and in other places, there were secret organisations which acted in a planned and coordinated manner.

Socialism

Luddism was now being suppressed by the government and the army. A new ideology was slowly developing which would give the workers a new social goal. This was the idea of Socialism. What is Socialism? Socialism calls for public ownership rather than private control of property and natural resources. According to the socialist view, individuals do not live or work in isolation but live in cooperation with one another. Further, everything that people produce is a social product, and everyone who contributes to the production of a good has a right to share it. Therefore, society as a whole should own or control property for the benefit of all its members.

In this way, socialism is opposed to the basic idea of capitalism. Capitalism is based on private ownership of the means of production. Capitalists themselves determine what is to be produced and who is to be given a share of the produce. Socialists complain that capitalism distributes wealth and power in an unfair and exploitative manner. It gives all the money and power to a few individuals. The rich then use their wealth and power to increase their dominance in society. Because such people are rich, they may choose where and how to live. Their choices in turn limit the options of the poor. As a result, terms such as individual freedom and equality of opportunity may be meaningless for capitalists. But the working people must do as the capitalists' want in order to survive. As socialists see it, true freedom and true equality means that society should control the resources that provide the basis for prosperity in any society.

Socialists also believe that because the resources are distributed unequally, there cannot really be genuine free competition. The rich and powerful people manage to move the balance in their favour by hook or crook.

Some elements of socialist ideas can be seen in many thinkers down the ages, like Plato or Thomas Moore. These ideas became powerful when they were

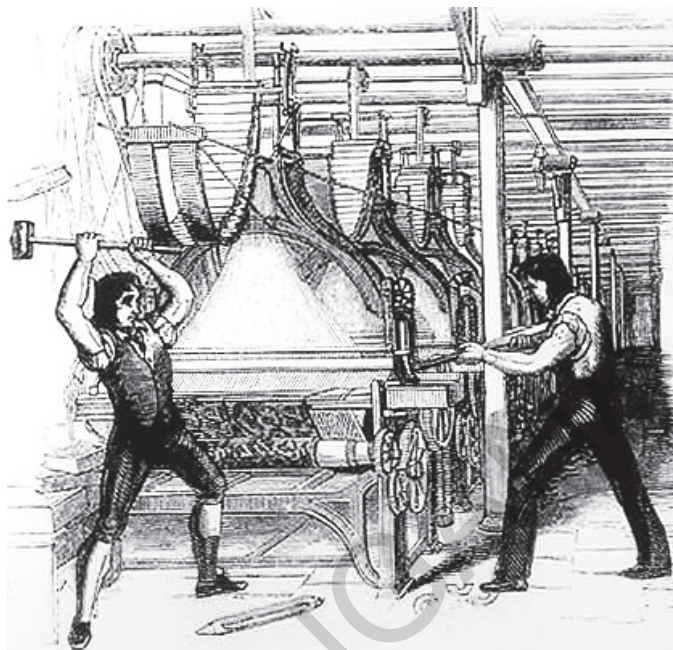


Fig. 14.2: An illustration from 1812 named *Frame Breaking* showing Luddists.



Fig. 14.3: Pyramid of Capitalist System

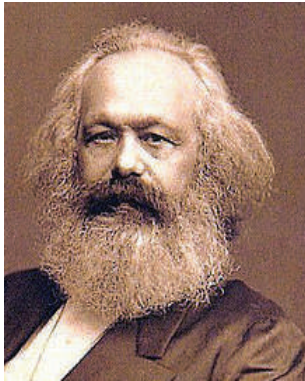
combined with the ideas of French Revolution. Babeuf and other radicals complained that the Revolution had failed to fulfill the ideals of liberty, equality, and fraternity. Babeuf argued that in order to get complete equality, private property and common enjoyment of the land and its fruits should be abolished. He was executed for conspiring to overthrow the government because of these ideas. However, his ideas inspired many social protest movements against the factory system.

Another early socialist thinker was Saint-Simon of France who advocated for public control of property through central planning. He imagined a society in which scientists, industrialists, and engineers would anticipate social needs and make plan to meet them. Such thinkers emerged in England too, the home of

Industrial Revolution. Here a small industrialist named Owen was disturbed by the conditions of the workers and the wealth of the capitalists. He took an initiative for building cooperative villages, in which everything would be owned in common and people would work in cooperation with each other and share the products of their labour. However, these ideas could not be implemented because of the massive growth of industrial production and so they only remained idealistic or utopian.

Karl Marx and Fredric Engels came up with a new theory of socialism based on their study of the working of industrial capitalist production. They argued that capitalism is both a progressive as well as an exploitative system. It separates capitalists and workers from their true humanity. It is progressive because it has made possible the industrial transformation of the world, and this productive power can fulfill everyone's necessity. Yet it is exploitative because it forces the working classes to lives of extreme hard work and difficulties. The fruit of this hard work goes to the capitalists. Marx believed that industrial production will make it impossible for people to live and work on a small scale; they will have to cooperate with countless number of people to produce even their basic needs. Thus, production has become an all-society affair rather than a matter of one family or a small farm or one village. This has given human beings a lot of power in their hands to improve their own lives, provided they are able to do it in collective interest.

Marx and Engels argued that the workers, who produced in the factories, had no property and were at the same time most important for the production to happen. Yet they are exploited so that the capitalist system continues to make profit. This



Karl Marx

will force the workers to fight for better wages and for ending the capitalist system itself. If the workers take over all the factories and other resources and run them for common benefit, a new and equitable society could be established. He argued that workers should organise themselves and throw out the capitalists just like the feudal lords and kings in the French Revolution. Workers should take over the state



Friedrich Engels

government and establish a worker's state which should own all the factories and land. This state should plan and organise the production in a way that it benefits all the members of society.

The ideas of Marx and Engels made a great impact on radical thinkers and activists at the end of 19th century and inspired major social movements in the 20th century. At the same time, many other radical thinkers disagreed with Marx on many issues and they gave new theories like Anarchism.

Socialism came to India from very early days. Swami Vivekananda was himself deeply influenced by the ideas of Socialism which were growing in Europe and America when he visited those continents. As the nationalist movement grew in strength, many nationalists were also influenced by socialism. Russian Communist Revolution in 1917 was the source of great inspiration for Indian nationalists, particularly as the revolutionary government declared that it will support all nationalist causes. Many leaders like M N Roy, Bhagat Singh, Jawaharlal Nehru etc. were enthusiastic socialists. As factory production developed in Indian cities

- In what way did Marx's Socialism disagree with Luddism?
- Why did Marx consider factory production as superior and desirable?
- What was the main difference between Marx and the earlier socialists?

too, many leaders organised trade unions among the workers. They too were influenced by the ideas of Marxism and went on to found the Communist Party of India in the 1920s.

Women's Movement

During medieval and early modern times, women were dominated by men across the world. They did not have access to property or civil rights like voting etc. They were mostly restricted to domestic work like cooking, bringing up children, taking care of the elderly at home and assisting men at work. This started to change with industrialisation as women began to be employed in factories in large numbers. As

women came out of their houses to work and earn, they developed a new identity of themselves and their role in society. They began to assert the principle of equality of all human beings, whether they were women or men.

When the French Revolutionaries were preparing the Declaration of Rights of Men in 1791, many French women protested against this and drafted a separate Declaration of the Rights of Women. It declared - “Women are born free and remain equal to men in rights. Social distinctions may only be based on common utility... All citizens including women are equally admissible to all public dignities, offices and employments, according to their capacity, and with no other distinction than that of their virtues and talents”. Of course, this declaration was never passed by the French Assembly. However, the goals of women’s movements in Europe and America were that women should be treated as equals of men, that they should have the right to participate in government through voting and holding public posts.

The movement for extending the right to vote to all sections of the population became stronger from 1830 to 1870. In countries like England, women came out in large numbers demanding the right to vote. They were called ‘women’s suffragists’. They held demonstrations, meetings, wrote in newspapers, and made appeals to the Parliament. Russian Revolution was the first to grant such rights to all women in 1917. The right to vote was extended to some women in England in 1918 and to all adult women by 1928. Gradually, this was accepted by most democratic countries.

As women participated more and more in public matters, they realised that women were treated unequally in most sectors, whether education, health, property rights or employment. Many women writers like Virginia Woolf wrote about how men dominate over women and how women have themselves become subjects of this domination. A new phase started in the women’s movement after the Second World War. It focused on gaining equality for women in all aspects of life. They campaigned against cultural and political inequalities, which they felt were linked to each other. The movement helped women to understand that power was unequally distributed between men and women. First-wave of feminism focused on absolute rights such as suffrage, Second-wave feminism focused on other aspects of equality, such as end to discrimination in all aspects of life including education and health.

You would have read about the struggles of social reformers in 19th century India to end practices like Sati, killing of girl children at birth, enforced widowhood for life etc. and also to extend modern education to women. The growth of education among women enabled many women to take part in public life and organise other women like themselves. This gave rise to women’s movement in India too.

Women participated in the national movement and leaders like Mahatma Gandhi specially emphasised the importance of women in the movement. Thousands of women joined the freedom movement and helped to shape the ideas of the nationalists. As a result, when India became independent, women were given

complete legal equality vis a vis men. It also sought to end discriminations against them in property laws etc.

Even though legal equality was achieved, women all over the world including India still do not have real equality. The new wave of women's movement is trying to understand the reasons for this and bring about real and effective equality.

Keywords

1. Socialism
2. Luddism
3. Orientalists
4. Feminism
5. Capitalism
6. Revolutionaries

Improve your learning



1. Which of the following statement about lives of industrial workers are correct? And correct the false statements
 - Workers controlled the industries.
 - Living conditions of the workers were comfortable.
 - Low wages was one of the reasons for discontent among the workers.
 - During the phase of industrialisation there was emphasis on emotions and feeling.
 - Romantic writers and artists tried to highlight values of closeness to nature as described in folk tales and folksongs.
2. List some of the problems faced by workers of those times. Discuss if such problems exist in our times too.
3. Write a paragraph differentiating the ideas of capitalism and socialism.
4. How was the idea of equality being similar or differently challenged by women and workers movements?
5. Draw a poster to illustrate the ideas of “liberty, equality and justice” within the context of workers, and women. Identify occasions where these ideas are being violated.
6. Locate the countries in the world map in which the protest movements took place.
7. Read the last paragraph of page 187 and first paragraph of page 188 and comment on them.

Project

Do you find any such social protest movements around you? Interview with the leaders of that movement and prepare a report and present in your class.

Colonialism in Latin America,
Asia and Africa**Expansion of Europe and Early Colonialism**

Look at the map of the world given below. It shows the world as it was known to the Europeans some 600 years ago.

Map 1: Map of world known to Europeans in 1400 known as Genoese.



Around 600 years ago, people of the world travelled very little. They usually travelled on horses or camels or by small boats and ships which only sailed along the sea coasts. However, the contact between people and countries began to increase as traders travelled to different countries and continents to buy exotic goods and sell them at high prices. Silk and porcelain ware from China, cotton textiles, steel and spices from India, fruits and scents from Arabia and wine from Europe were some of the most popular goods all over the world. The traders usually purchased and sold them in exchange for gold and silver and made huge profits. In fact, some of them were even richer than kings. Indian traders and sailors from Gujarat, Konkan, Malabar and Coramandel coast traded far and wide. They traded with China, South East Asia, the Red Sea ports and also eastern Africa. Their sailors used the monsoon winds to cross the Arabian sea and the Bay Bengal.

Most of the trade routes that connected Europe and Asia around 1400 were controlled by Muslim kingdoms, especially the Ottoman Empire. Ottoman Empire was constantly at war with the European Christian powers. The Italians had a good relationship with the Arab traders who brought Asian goods to Alexandria (in Egypt) and sold them to the Italians. Slowly, the traders and governments of Western European countries like Holland, Spain, Portugal

- Which continents were the traders not familiar with at all?
- Which were the continents whose coastal areas were known to them but not the interior regions?

and England realised the importance of this trade. They also wanted to find faster and easier routes to countries like India and China, without passing through regions controlled by Italian traders. The Portuguese, for example, wanted to find a route around Africa to reach India. The Spanish wanted to know if it was possible to reach India by crossing the Atlantic Ocean. They invested large amounts of money by hiring experienced sea mariners and giving them ships and other resources to explore new routes. This led to the discovery of the American Continent by Christopher Columbus in 1492 and of sea route to India around Africa by Vasco Da Gama in 1498. Columbus was working for the Spanish queen while Vasco da Gama was working for the Portuguese king. Soon, English and Dutch governments also started sending their sailors to these regions.

- Why do you think the Italians were controlling the trade with Asia in 1400 and not other Europeans like Portuguese or Spanish?
- Why were the Portuguese and Spanish keen to find other routes to reach India and southeast Asia?

European Colonies in America

Columbus landed on what are today known as the West Indies – the islands off the coast of South America. He had thought that he had reached India and called the local people ‘Indians’. (That is why the original inhabitants of America are called Native Indians today.) These were simple tribal people who welcomed the visitors and gave them food and shelter. However, these Spaniards enslaved and plundered them. They converted them into slave labourers to grow food and mine gold. Eventually, virtually all native people of the islands died or were killed.

After Columbus, the Spanish government sent several expeditions to conquer America and rob it. They expected to find gold and silver mines and vast quantities of these precious metals with the help of local kings. Cortez, a Spanish conqueror, led an expedition to kill the people and plunder Mexico. He eventually killed the local king and put an end to the independent rule of Mexico. Similarly, another conqueror named Pizarro plundered and conquered Peru.

The English also came to North America and began to set up colonies of English farmers along the eastern coast. The



Fig. 15.1: Columbus before the Queen, as imagined by Emanuel Gottlieb Leutze, 1843.

Native Americans mostly acted in friendship and extended help and cooperation to the Europeans. In England, this was the time when the small peasants were being deprived of their land by landlords. Many of these peasants migrated to North America and wished to settle down there. They forced the Native Americans to give up their land and killed them and drove them into the interior.

As the news of the natural resources available in America reached the people of Europe, a large number of land hungry people started going to America. They drove off the native people and took over their lands.

Once the killing and plunder had reduced, the Europeans wanted to settle there and exploit the natural resources of America. However, they needed slave labour to do the work. They realised that it was difficult to enslave the Native Americans. They therefore began to transport a large number of African slaves. These were people who had been captured from the interiors of Africa by European (especially Portuguese) traders and their agents. These African slaves were transported to America under very inhuman conditions and sold to large landlords and others. About 15 to 20 million African slaves were thus forcibly taken away to America. They were made to work on sugar cane farms, corn fields, tobacco fields and cotton fields. Their produce was taken away and sold in different countries including England and France for huge profits.

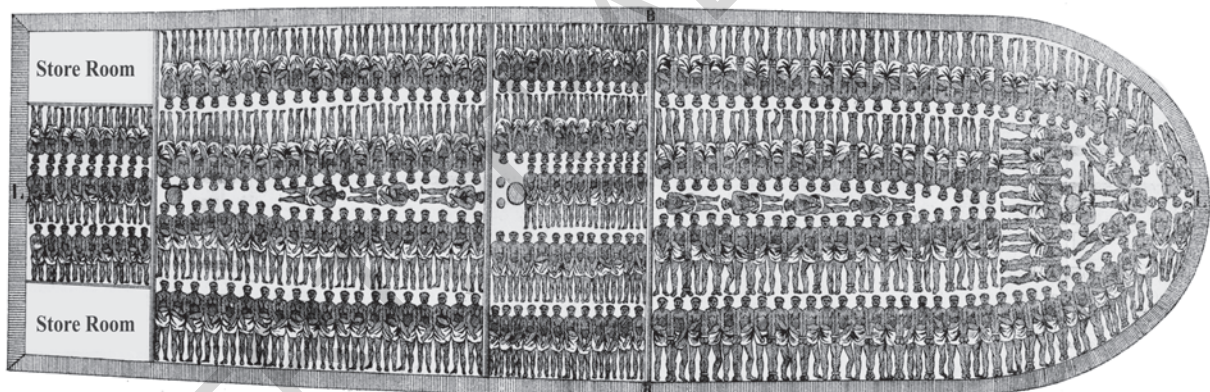


Fig. 15.2: Illustration showing 292 slaves being stowed in the lower deck of ship

‘Latin’ America

In a period of three hundred years from 1500 to 1800, most of Central and South America had come under the control of Spain and Portugal. Since Spanish and Portuguese languages are considered as off shoots of Latin, these countries are called “Latin American” countries. About half of the original inhabitants of the continent had been killed or died of diseases brought by Europeans. A large number of people from Europe settled there who also purchased slaves from Africa. The residents of these countries today are a mix of native Indians, Spanish and Portuguese settlers and descendents of African slaves. A large number of people are descendents of mixed parents – Europeans who married Indians or Africans.

- Look at the map of South America around 1800 to identify the countries controlled by the different powers.

We read that a large number of native Indians had been killed. Many small tribal communities survived in deep forests while other communities came under the control of the Spanish. They had to pay heavy taxes, and had to work as labour in the mines and farms owned by the Spanish. Most of their temples were destroyed and they were all converted to Roman Catholic religion. There were several small and large rebellions in the 17th and 18th centuries by the Indians in South America, but these were mercilessly crushed by the Spanish who had arms and ammunitions.

In most of the Spanish ruled countries, all the power was in the hands of Supreme Council located in Madrid (capital of Spain). This council appointed high officials and nobles from Spain to govern the colonies in America. The Catholic Church also played an important role in the governance of the colonies. Then there were the Spanish settlers who controlled the land and mines of these countries. Some of them were large landlords who had vast estates called 'haciendas'. Haciendas were estates spread over thousands of acres which contained silver and copper mines, agricultural lands and pastures and factories. They were owned by landlords who employed peons or unfree Indians and African slaves to work on them. Besides these, there were ordinary Spanish who had settled as small farmers and animal herders. However, the settled Spanish did not have any role in the administration of the colonies which were controlled by the Spanish from Europe.

Over a period of time, the Spanish landlords and farmers developed trade and industry in these countries and exported large amounts of agricultural produce like sugar and meat to Europe apart from metals like tin and copper.

The economies of the colonies were controlled by Spain in such a way that they got cheap labor and natural resources and never worked on internal development.



Map 2:
South America
- 1800.

- Why do you think the Spanish Settlers were not allowed positions of importance in the government of the colonies?

The colonial powers wanted to have monopoly over their trade relations. To ensure these monopolistic privileges, the colonial powers planned the social and economical dynamics of the colonies.

The colonies were forced to cultivate commercial crops like sugarcane, tobacco or cotton, which were sold cheaply to the dominant countries. They were not allowed to develop industries or trade with other countries. It was possible for the European countries to grow commercial crops on a large scale at low costs because of the large estates which used unfree labour. These estate owners had no need to use modern methods of cultivation or production because they had a supply of cheap forced labour.

The profits earned by the local elites were used up in luxurious goods display, rather than saving and investing in production. This led to a very unequal agrarian social structure which also meant acute poverty for the majority of the people.

The colonial system also placed a lot of control on the colonial economy. Strict laws and other measures of social control were established in the colonised countries. The manufacture of even

- You studied about the zamindari system in the Nizam state in Class VIII. Compare the Zamindari system in the Nizam state and the haciendas of South America. What similarities and differences do you find between them?

- Try to formulate the grievances of the following people of the Latin American colonies:

1. Spanish settlers who owned haciendas
2. Small Spanish farmers settled in America
3. Native Americans
4. African slaves settled in Latin America

minimal industrial products such as nails was forbidden, artificially increasing the dependence of the colonies. Thus colonial control forced a kind of ‘underdevelopment’ of the colonies – prevented them from developing themselves by investing in productive sectors.

The people of the Spanish colonies including old Spanish settlers disliked the control of Spanish nobles over them. Many revolts broke out against Spain in Latin America from 1810. They were greatly influenced by the Declaration

of Independence by the North American colonies and French Revolution. Between 1816 and 1826, most of the Latin American countries became independent. Simon Bolivar led a revolutionary army which was supported by black slaves, small farmers and people from Europe who supported freedom and democracy under the influence of French Revolutionary ideas. This army liberated Venezuela. Another revolutionary army led by San Martin liberated Chile, Peru and Argentina by 1817 and Brazil which was a colony of Portugal became independent in 1822. Thus the colonial rule of European powers ended over much of South America.

By 1820s, United States of America had emerged as a major economic and political power. It felt that the South America should be under its influence and actively discouraged any European power to establish control over this area. The President of USA, James Munroe, formulated the 'Munroe Doctrine' according to which no European power would be allowed to build colonies in the American continents and US will not interfere in the affairs of Europe or colonies in other continents. Read below an extract of Munroe's speech of 1823:



Fig. 15.3: An Inca site of worship known as Machu Picchu in today's Peru

“The occasion has been judged proper for asserting, as a principle in which the rights and interests of the United States are involved, that the American continents, by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects for future colonisation by any European powers.”

You may note that Munroe was not supporting the right of the American colonies to freedom but asserting the rights and interests of US. Although the doctrine said that European powers should not consider colonising any American country, it also said that an American country is allowed to colonise these countries.

Britain, which had a powerful navy, supported the Munroe doctrine. Britain was keen that the American colonies were not under political control of any European power so that they would be free to trade with England and purchase its industrial goods.

Thus even though the direct colonial rule ended, many aspects of the old colonial rule remained. Thus the Latin American countries had a social system which consisted of very large landlords on the one hand and a large number of slaves, semi slaves and poor small farmers on the other hand. There were also villages of poor Indian communities. Industry and trade was under the control of the landlords who had little interest in developing these villages. They received sufficient incomes by exploiting servile labour. Thus in many ways, old colonialism continued to influence the Latin American countries. The dependence upon developed industrial

- Why do you think the Latin American countries remained undeveloped despite getting independence from colonial rule?
- In what way did the Munroe doctrine protect the independence of Latin America? Did it also limit their freedom?
- How did Britain gain from the Munroe doctrine?

countries like Britain and US has continued to keep these countries undeveloped because of high levels of social and economic inequality and very high incidence of poverty due to landlessness.

European Colonialism in Asia

Most countries of Asia, like India, China and Japan were different from Latin American countries in many ways. Most of the Asian countries were densely populated by prosperous peasant communities. They were governed by powerful empires that had vast armies. Thus, when the European powers tried to attack the Mughal Empire, they were repeatedly defeated by Mughal armies. However, the Europeans were able to establish power over some important ports like Goa from where they controlled the oceanic trade. The Portuguese, for example, established a 'seaborne empire' over the Indian Ocean in 16th century. All ships travelling on the Arabian Sea, Indian Ocean or Bay of Bengal had to pay a special tribute to the Portuguese and if they failed to do so, they were attacked and looted.

The Portuguese control of the seas was finally ended by other European powers like Holland and England which were also reaching Asia for trade. Holland and England had set up their own East India Companies in 1600-1602 to handle trade with Asian countries. The Companies were keen to purchase produce from Asian countries like cotton and silk textiles, spices, steel etc. which were in great demand in Europe and fetched very high profit. For example, the first Dutch expedition fetched about 400% profit on its investment!

The European companies had set up trading posts in different port cities of India, African Nations and Indonesia. Some of them like Holland established political control over some port cities in Indonesia.

Dutch: The people of Holland are called the 'Dutch'. The official name of Holland today is Netherlands.

Soon, Europe started objecting to the activities of these companies. They were buying commodities from India in exchange for precious metals like gold and silver. By doing so, they were draining Holland and England of their accumulated wealth. Europe felt that India will become richer at the cost of European countries as a result of this trade. Hence, there was a great pressure on the Companies to finance their trade in Asia on their own.

The Dutch Company responded to this change by conquering lands in countries like Indonesia which did not have very powerful kingdoms at that time. They pressurized the local people to sell their products at a cheaper price to the Company. These companies had a monopoly and did not allow other countries to trade with

them. In 1800, the Dutch Government disbanded the Company and established direct rule over Indonesia. Since the government was in deep financial crises, it wanted to use Indonesia as a source of revenue. The Dutch forced the native people to deliver products like coffee, sugar and spices as taxes. This was sold in international markets by the government which earned huge profits. As much as 25% of the Dutch government budget came from these profits. This caused hardships for the native people who could not grow necessary food grains or get even minimum prices for their commercial produce. This resulted in acute poverty and famines. They started revolts which were brutally suppressed. This policy was criticised by many people in Holland.

The government finally ended the system of forced delivery of produce in 1870. It now encouraged Dutch capitalists to invest in Indonesia to set up 'plantations' in which a single crop (like rubber, pepper or sugarcane) was extensively planted and managed by Dutch planters. The Dutch introduced coffee, tea, cocoa, tobacco and rubber and large expanses of land became plantations. The plantations were worked by semi-servile workers under overseers. Many of them were even brought from distant countries like India. The produce of the plantations were sold by the owners in international markets especially in Europe. They also invested in mining tin and petroleum. To increase the transport of these goods, the government invested heavily in railway, as well as telegraph lines etc. The Dutch Indonesia produced most of the world's supply of quinine and pepper, over a third of its rubber, a quarter of its coconut products, and a fifth of its tea, sugar, coffee, and oil. The profit from the Dutch East Indies helped Holland to develop industries and made it one of the world's most significant colonial powers. This power was ended by Japan during the Second World War between 1939-45. Indonesia became independent after the world war along with India.



Fig. 15.4: Dutch imperial imagery representing the Dutch East Indies (1916)
The text reads *Our most precious jewel.*

China

China, like India, was one of the most populated countries of the world and had a powerful empire. It was also further east of India and the Europeans could not control it the way they could conquer Latin America or Indonesia. Chinese rulers realized that it was dangerous to allow Europeans to trade freely in China. So they permitted them to trade only in one city with specific traders only. They were not

Colonial Expansion in India

You have read about British conquest of India in the earlier classes. This is to help you to remember some of the important stages of this conquest. The Portuguese had established control over some ports like Goa in the early 15th century. Other European powers began to trade with India by the end of 16th century by establishing their trading outposts. Till the Mughal empire was strong, no European power could think of building political power in India. As the Mughal empire declined after 1700, the European companies gradually tried to establish political control over parts of the coastal regions. They began in South India, where the English gained control over Madras and the French over Pondicherry. They also fiercely fought with each other and wanted to establish monopoly trade with India. The English eventually succeeded in defeating the Nawab of Bengal and establishing political control over Bengal in 1757. This laid the foundation of British rule in India. The Company used the revenue of Bengal to finance its purchases in India and also used political power to force Indian artisans and farmers and traders to sell their goods at a very cheap price to it. This helped the company to make huge profits.

even allowed to move about the empire and were restricted to their residential quarters. In this way, the Chinese authorities tried to reduce the threat posed by the European traders. The European traders found the trade in Chinese silk and tea very profitable but since the Chinese did not want any European goods, they had to use silver and gold to pay. As we read earlier, this policy was opposed in Europe they did not want to give away precious metals from Europe. The European traders hit upon an item which was in great demand in China but was produced in India. This was opium. The English encouraged Indian peasants to produce large quantities of opium and purchased it from them at very low prices. This opium was smuggled illegally into China and sold there. In return, the Europeans purchased silk and tea



Fig. 15.5: British navy in the first Opium war.

which they sold in Europe. In this way, they did not have to pay the Chinese in silver and gold. As the smuggling of opium increased, the Chinese authorities suspended all trade with European traders even in the one city they had allowed it. This led to what was called the Opium Wars which were fought between China and England between 1839-42. The war was supported by the other European powers China was

defeated by England which imposed a series of unequal treaties on China. These treaties allowed England to trade with China without any restrictions. It also allowed the English to set up trading enclaves in China in which only English laws could be in force. England also forced China to give it the most favoured nation treatment, by which any concession given to any other country would be automatically apply to England too.

With this began the loss of independence of China even though the Emperor's rule continued till 1911. We can see that unlike India or the Latin American countries, China was not under direct political control of any European power. However, it was made to serve the interests of these powers through unequal treaties which forced China to accept terms of the European countries. China thus had to pay heavy war indemnity to the Europeans, allow free trading rights to them, keep the import duties to the minimum, allow the European powers to establish settlements on Chinese soil in which their laws applied and not the Chinese laws etc. Thus, while the Chinese government was responsible for handling the day to day administration of the country, the economy came under the control of the Europeans. Europeans could now sell their produce in China, purchase raw materials for their industries at low costs and at the same time ensure that local industries did not develop in China.

You may remember that England was not the only country to trade with China. Other European countries like France, Germany, and Russia etc. forced the Chinese government to recognise certain parts of China as areas of special influence of these countries, where they had a free entry but not the other countries. This was a kind of partitioning of China without actually doing so. Thus, China was controlled economically and politically not by one country but by several European countries. These European countries were joined by a new power that had emerged in Asia itself – Japan. Japan had a political revolution in 1868 and had begun rapid industrialisation and modernisation. Japan too was looking for colonies from where it could get cheap raw materials and where it could sell its industrial products. It started a war against China in 1894-95 and forced China to give up much territory and pay damages to Japan.



Fig. 15.6: Watercolour on paper titled 'Macao street scene' from 1840. Macao was one of the port cities in China where Europeans were allowed to conduct trade.

- Main products imported by western countries from China were _____.
- The product that western countries tried to sell in China was _____.
- An Asian country that tried to influence trade in China was _____.

In this way, various European powers and Japan increased their influence in China. That is why China is considered a semi-colony and not a fully fledged colony of any particular country.

Colonialism in Africa

Till the middle of 19th century, the Europeans had little interest in establishing colonial power in Africa. Between the 16th and early 19th century, they used Africa for slaves. Slaves were taken from Africa and sold off in America. Some powerful countries like England used important parts of African coast like the Cape of Good Hope to halt and refresh supplies to their ships on their way to India and China. These countries felt that Africa had little to offer to the colonial powers in terms of trade.

Explorations: Europeans had called Africa a 'Dark Continent' as they had very little information about the interiors of the continent. The entire continent was on a high plateau with a very narrow coastal region. Most of the rivers flowed through the plateau and reached the coasts through narrow gorges and steep waterfalls. Thus, European traders had avoided going into the interior regions. Throughout the 19th century and especially after 1850, European countries sent expeditions to explore the interiors of Africa. They asked the explorers to prepare maps of the places, natural features like rivers and mountains, mineral sources, forests and products and the people living there. They used this valuable information to make plans for conquering and colonising these interior regions. The most famous European explorers were David Livingstone and H. M. Stanley, both of whom mapped vast areas of Southern Africa and Central Africa for Belgium. In the 1850s and 1860s, Richard Burton, John Speke and James Grant located the great central lakes and the source of the Nile. By the end of the 19th century, Europeans had charted the Nile from its source, traced the courses of the Niger, Congo and Zambezi rivers. They now realised the vast resources of Africa. Many of these explorers were also linked to various Christian churches that were keen to spread Christianity among the people of Africa.

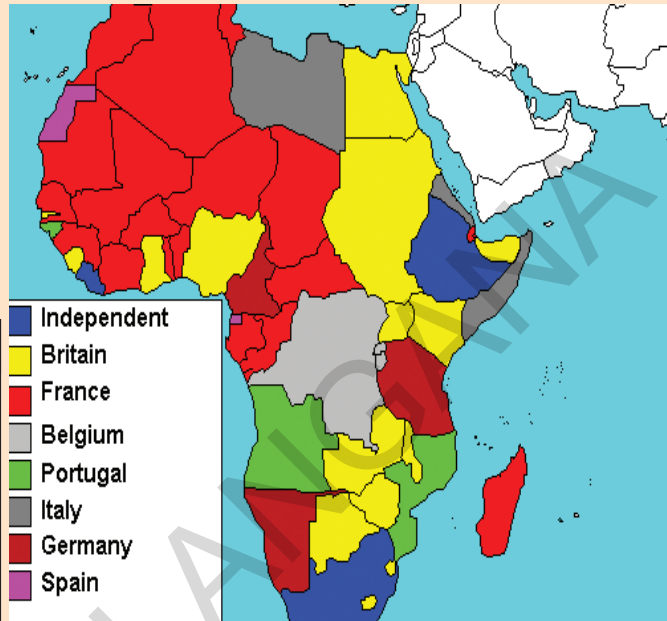
After 1850, industrialisation increased in different countries of Europe like England, France, Belgium, Germany, Italy etc. They desperately needed markets for their products in Africa. They now realised that Africa had many important industrial raw materials to offer like copper, tin, rubber, palm oil, cotton, tea, cocoa etc. The European manufacturers also saw Africa as a major market for their produce. Industrialisation and nation building started very late in countries like Germany and Italy. They were now keen to establish the power of their states by acquiring more colonies than other European powers. Africa was the only continent with a large population and natural resources which was left for Europe to colonise.

Look at the Map of Africa in 1913 to see the extent of colonial possessions of the European powers in Africa.

Compare the map with a modern map of Africa.

Make a list of the large African countries and write against their names the countries that had colonised them.

Map 3: Africa - 1913



Modern Country	Colonial power in 1913
South Africa	
Egypt	
Nigeria	
Ghana	
Libya	
Algeria	
Angola	
Congo	

A virtual ‘Scramble for Africa’ began in 1870s. In 1870s, only about 10% of Africa was under colonial powers. But, within the next forty years, almost the entire continent, with the exception of Ethiopia and a couple of small states, was colonized. Ethiopia was able to defeat Italy in a war and thus became the only traditional non-European empire to defeat a European army.

Scramble for Africa: It is used to describe the frantic claim of African territories by the European Countries.

As time proceeded, the competition for colonies and territories between the European powers increased and could no longer be peacefully ‘managed’ through negotiations. Thus, the First World War broke out in 1914. This was the most destructive war humanity had seen till then.

The Experience of Colonisation – Some case studies

Congo

In 1869, King Léopold II of Belgium secretly sent an explorer, Stanley, to the Congo region in Africa. Stanley made treaties with several African chiefs and persuaded them to give up their territories to him. Further, he added the kingdom of Katanga by killing its king. By 1882, Leopold’s African territories grew up to 2,300,000 square



Leopold - II



Fig. 15.7: A cartoon published in 1906 in Punch showing Congolese man and Leopold - "In Rubber Coils". Rubber was a plant introduced into Congo under colonialism

kilometres, about 75 times larger than Belgium. It was called the Congo Free State. Léopold II personally owned the colony and used it as a source of ivory and rubber. The Congo Free State ruled and terrorised the African people, killing a large number of people and forcing labour. Each person in the village was forced to supply a quota of rubber. If anyone failed to do so, their hands were cut off. Out of the estimated population of 16 million native inhabitants, around eight to ten million died between 1885 and 1908. Leopold amassed a huge fortune. A part of this money was used to undertake many building activities in Belgium. There was much public criticism of this all over the world including Belgium. The Belgian government was finally forced to end the personal rule of its king over Congo and bring it under the rule of the Belgian Parliament.

A similar situation occurred in the neighbouring French Congo. A concession company extracted resources from this region. Their brutal methods killed up to 50 percent of the indigenous population.

South Africa

The English had established an outpost in the Cape of Good Hope to help the passing ships to rest and replenish food supplies. Some Dutch farmers had settled in this area to cultivate and sell the produce to the passing ships. They started having conflicts with the local African people. They tried to drive the Africans away from their lands. These Africans were called Boers. When the British began to increase their control over the area, the Boers were dissatisfied. So, they migrated to new areas and even established independent republics. When gold and diamond mines were discovered in these new areas (1869 and 1886), a large number of people from Europe and Africa and India started migrating to South Africa. They wanted to earn money from the mining boom. The British government now wanted to end the independence of the Boers and establish British power over the mining regions. They fought two bitter wars, known as the Boer Wars, to gain control over much of what is today called South Africa. These wars ended in 1902 and the British consolidated all the regions of South Africa into one 'Union of South Africa'. By this time, South Africa had a mixed population of European migrants (mainly English

and Dutch), Black Africans, Indians and Chinese. The British developed a government system which favoured the Europeans who were called Whites (20% of the total population) and gave them civic rights of voting etc. This new system discriminated against the Africans who were known as Blacks (75% of population) and Indians (about 5%). Native Africans had to pay



Fig. 15.8: Boer war.

heavy taxes, and had to live in a very small demarcated area. They were not allowed to acquire land in any other areas which were reserved for the Whites. Thus, whites had about 90% of all lands. A number of discriminatory laws were passed to ensure that the Blacks and Indians worked for the British settlers in farms and mines. They were also denied civil rights of free movement and right to form associations to express their complaints. This policy of discriminating against the majority of the population based on racial differences is called Apartheid Policy. The African people fought against it for almost the entire 20th century and finally ended it in 1994.

You would have noticed that from 1400 onwards, almost the whole of America, Africa, Asia and Australia – that is all the continents other than Europe were colonised by European powers. They established their political and economic control over these countries and peoples. Yet, they were not colonised in the same manner or lead to similar results – you saw how in America, a large part of the native population was killed, and plundered and enslaved; how Europeans settled down there; how they brought millions of people from other continents like Africa as slaves to settle in America. You saw how they established control over the people of India but did not kill off the Indians or even enslave them. Nor did they try to settle down in India in large numbers. Rather they tried to establish control over the natural resources of India through taxation of agriculture, purchasing raw materials at low costs and at the same time selling their industrial products in

India. This led to impoverishment of Indian artisans and peasants. Millions of them died in famines and lakhs of them had to go to plantations in South East Asia, West Indies, Africa etc. to work as bonded labourers there. Europeans did not even establish complete political control over China but established spheres of influences where they could trade freely.

The European powers thus changed the economic and social lives of the people of the colonies in such a way as to suit the needs of the European powers. However, at the same time, they could not stop new ideas of freedom and democracy and nationalism from reaching the colonies. These ideas gave the people of the colonies a new power and identity with which to fight colonialism and eventually win freedom.

Keywords

- | | | |
|--------------------|------------------|-------------------|
| 1. Colonialism | 2. Latin America | 3. Ottoman Empire |
| 4. Explorations | 5. Apartheid | 6. Haciendas |
| 7. Munroe doctrine | 8. Opium Wars | |

Improving your learning

1. “Trade played a major role in the colonisation”. Do you agree? Why?
2. How did the lives of native people in different countries affect the colonisation – write two ideas each in the context of – crops cultivated/ religion/ use of natural resources – for the three continents.
3. Compare the nature of colonial rule over China and India and Indonesia. What difference and similarities do you find between them?
4. Locate the Portuguese, Dutch, British and French colonies in the world map and filled with different colours.



Project

If you were a person of Britain, could you support its colonisation? As an Indian could you support or reject colonisation. Give a brief account of your views.



In Class VIII, we studied how the colonial policies affected the forests in Andhra Pradesh. In this chapter, we will understand how forest, industrial and labour policies affected the lives of people across different parts of the country.

How Forests Were Used Before British Rule

For ages, Adivasis and villagers living in and near forests used to fulfill their basic needs and necessities from the forests. In a way, they were the owners of the forests. Before the British started ruling, they used the forests for hunting, gathering wood, fruits, flowers and herbs and for grazing their cattle. In some places, they cut down and burnt the trees and cleared the land to cultivate crops. They cut wood to build their homes and to make tools. These people took whatever they needed for their personal use from the forest. They sold some of the things produced in the forest only to buy other things they needed from the market, such as salt and iron. They did not sell the other things that they got from the forests such as wood etc to earn a profit.

Even though the adivasis and villagers sometimes cleared large areas of forests by cutting down trees for cultivation, large areas of land were still left under forest cover. Sometime there were tensions between farmers and tribal people over this. But these farmers and adivasis who used these forests also protected them. When they needed wood, they cut only old trees and allowed new trees to grow. They did not blindly cut large tracts of forest, but only small patches, so that the forest would not be destroyed.



Fig. 16.1: Forest in Telangana .

- Underline four sentences that represent the situation of adivasis and their use of forests before British rule.

From time to time, the people living in forests gave valuable gifts of ivory, animal skins and honey to the kings and emperors. The farmers who cultivated land in the forests sometimes also paid taxes. Many adivasis farmed using the technique of shifting cultivation also known as Jhum Cultivation. The kings and emperors did not make laws or rules to control how they used the forests because the people living in forests did not threaten the security of the kingdoms. So, for many centuries, the adivasis lived in harmony with their forests, fulfilling many of their daily needs from the forest and looking after them carefully.

How Forests Were Used During British Rule?



Fig. 16.2: Bamboo rafts being floated down the Kassalong river, Chittagong Hill Tracts.

The situation changed during British rule. At that time, bigger cities like Kolkata and Mumbai were growing. The government was laying thousands of kilometres of railway lines across the country. Huge ships were also being built and mines were being opened. Large quantities of wood were needed for all this, so the trade in timber increased rapidly.

Sleepers for Railway Lines

In 1879, there were almost 8,000 kilometers of railway lines in India. By 1910, more than 50,000 kilometers of railway lines had been laid. Each year, almost one crore wooden sleepers were needed to lay these new railway lines.

Sleepers: Wooden planks laid across railway tracks; they hold the tracks in position

The wood for these sleepers was cut from the forests in the Himalayan and Terai regions. Wood was also cut and sold in huge quantities for buildings, mines and ships. This work was done by workers hired by timber traders and forest contractors.

The British government and British companies made large profits from this trade. The government would hold auctions to sell the contracts for cutting forests. The contractors paid large sums of money to win the contracts, so the government earned a lot of money through these auctions.

Forests in Danger and the Need to Plant New Trees

- Have you seen old wooden sleepers used in railway tracks? What are they being replaced with today? Discuss why this replacement is taking place.

The British government started getting worried as the timber trade increased. Where would it get wood for its future railways, ships and houses if the forests were cut down



Fig. 16.3: Converting Sal Logs into sleepers in the Singhbhum forests, Chhotanagpur, May 1897.

Adivasis were hired by the forest department to cut trees, and to make smooth planks which would serve as sleepers for the railways. At the same time, they were not allowed to cut these trees to build their own houses.

so rapidly? The government felt that it should do something to ensure a regular supply of wood.

So, it decided to plant new trees to replace the forests that were being cut down. But the government was not interested in planting trees that were useful to the common people, such as mango, mahua, neem etc. It only wanted to plant trees that provided timber which was in great demand in the market. So, it began to plant trees like teak and pine in place of the forests that were being cut down.

The Government sets up a Forest Department

Most importantly, the government set up a Forest Department in 1864. The Forest Department made new laws and rules to protect the new forests it was planting. Through these rules, it also tried to ensure that the old forests did not vanish completely but were cut more carefully. These rules and laws helped the government to control the forests. The Forest Department officials felt the forests needed to be protected from the people living in or near them.

Adivasi Revolts

We have seen how the conditions of the adivasi farmers who lived in the jungle became worse in British times. The Baiga, Muria, Gond and Bhil tribes of Madhya Pradesh and Chattisgarh, the Koya, Reddy, and Kolam tribes of Telangana and Andhra Pradesh and the Saora adivasis of Orissa were no longer able to practice their old forms of cultivation. They were forced to become labourers for either the Forest Department or for contractors. Or they were forced to work as bonded labourers for moneylenders or farmers who had come from outside.

Now that the roads and railway lines had reached most places, it became easy for people from outside to settle down in Adivasis' areas and seize their land. The power of the Forest Department also increased. They started beating up people for the smallest reason. They forced them to pay fines. They also forcibly entered into people's homes to take away their belongings. They ill-treated women, took bribes, got *begar* (free labour) done by people. All this slowly became common.

The Adivasis started protesting against such atrocities in many places. During the protests, they would burn down many police stations, posts of the Forest

Department and houses of the moneylenders. In many places, they would set fire to the entire jungle. Such protests were made by the Santhal adivasis in Jharkhand in 1856, by the Koya adivasis of Andhra Pradesh in 1880 and 1922, by the Maria and Muria adivasis of Bastar in 1910, and by the Gond and Kolam adivasis in 1940.

The Santhal Revolt

From the beginning, the Santhals of Jharkhand had been resisting and protesting against British rule. In 1855-56, there was a huge revolt in which the Santhals started looting and killing the zamindars and moneylenders. The Santhals declared that British rule had come to an end. They wanted to make a free state for the Santhals. But they were armed only with bows and arrows, and were not strong enough to stand against the gun-bearing British army. By the end of a fierce battle, 15,000 Santhals were killed and their revolt was finally suppressed.

The Revolt Led by Birsa Munda

Between 1874 and 1901, the Munda adivasis of the Chhotanagpur Plateau, which is now in the state of Jharkhand, came together under the leadership of a young man named Birsa. They wanted to get rid of the British government that protected the zamindars, the moneylenders and the courts of law that had deprived the Mundas of their lands and their rights over their forests. Birsa was thought of as *bhagwaan*-god and people followed every word he said. In the end, the Munda rebellion was suppressed by arresting the leaders and putting them behind bars. Birsa Munda died in prison in 1900. However, the government was forced to make laws to protect the rights of the Adivasis of Chhotanagpur.

Forest revolt in Kumaon (1921-22)

In the Kumaon region of Uttarkhand, the peasants started protesting because their rights over the forest were being taken away by the government. So they refused to cooperate with the Forest Department. They openly broke the rules of the Forest Department. They also tried to burn the jungles used by contractors. They refused to do forced labour for the Forest Department.

Because of these movements, the British government had to change its policies. In many places, they made their rules less strict. In some areas, they made new laws according to which people from outside could not purchase the land of the Adivasis.

Alluri Seetha Rama Raju

Alluri Seetha Rama Raju was born on July 4, 1897 in Pandrangi village in the Visakhapatnam district. His mother was from Visakhapatnam and his father was a native of Mogallu, near Bhimavaram. His father was an official photographer in the central jail at Rajahmundry. Raju's father died when he was in school and he grew up in the care of his uncle, Rama Chandra Raju.



After the Madras Forest Act was passed in 1882, it restricted the free movement of tribal peoples in the forest. They were now stopped from engaging in their traditional 'podu' agricultural system. Raju led a protest movement in the border area of East Godavari and Visakhapatnam districts of Andhra Pradesh. Inspired by the patriotic zeal of revolutionaries in Bengal, Raju raided police stations in and around Chintapalle, Rampachodavaram, Dammanapalli, Krishnadevipeta, Rajavommangi, Addateegala, Narsipatnam and Annavaram. Raju and his followers stole guns and ammunition and killed several British army officers, including Scott Coward near Dammanapalli.

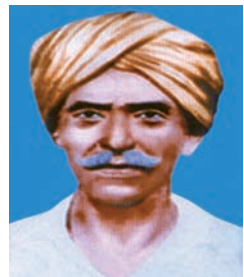
In December 1922, the British deployed a company of Assam Rifles, near Pegadapalle under the leadership of Saunders. Raju had now gone underground. He resurfaced after about four months and continued the fight. Many tribal volunteers joined him using bows and arrows under the leadership of Mallu Dora and Gantam Dora.

The British campaign lasted for nearly a year from December 1922. Rama Raju was eventually trapped by the British in the forests of Chintapalli. He was shot dead with a rifle at Koyyur Village near Mampa Village in 7th May, 1924.

Komaram Bheem

Komaram Bheem was born at Sankepally village in Komarambheem District. His father was killed in an attack by the Forest Department when he was fifteen. Then Bheem's family migrated to Sardapur village in Kerimeri mandal.

He was leading a normal life by *Jhum* farming. A jagirdar named Siddhiki, who was an informer of the Nizam, occupied Bheem's land. Bheem killed Siddhiki out of anger and escaped from police to hide in Assam. After that, he worked as a labourer in coffee and tea plantations for five years. He experienced labour agitations. He learned how to read and write. He understood the situation in his place through his close friend Komaram Sooru, who was his secret informer. He was inspired by the agitations and battles for freedom by Alluri Seetha Rama Raju in Visakhapatnam and Birsa Munda revolt fought against Nizam's rule.



By that time, Nizam's government used to collect tax in the name of 'Bambram' and Dupapetti for grazing cattle and collecting firewood for cooking. Adivasis were impressed and inspired by the message ***Jal, Jangal, Jameen (water, forest land)*** of Komaram Bheem. This slogan was given by Bheem to fight for tribal freedom and rights and oppose the taxes. Nearly 12 villages in earlier Adilabad were ready to fight for their land. Bheem formed a guerrilla army with the young men of Gondu and Koya. He gathered and trained tribal people to fight with weapons.

Jodeghat became the central place from where he started the guerrilla battle. Surprised by this battle, Nizam tried to attack on Adivasis. At last, on one full moon day, Komaram Bheem died in the battle against the Nizam's army in Jodeghat forest. After his death, Nizam appointed Haimendorf to do some research on the life of tribal people.

The British Government's Industrial Policy



Fig. 16.4: Drawings of Some Marwari traders from Calcutta.

In the 1850's, some Indian cloth mills were set up with much courage, first in Mumbai and then in Ahmedabad. Thus, cloth started being made on machines in India too! Some educated people and factory owners demanded that a special tax should be levied on cloth coming from Britain so that the cloth being made in India might get a better market. The special tax would make the British cloth more expensive and this would encourage the sale of cloth produced in Indian factories.

You know that in Britain, the government had done the same. They levied a special tax on cloth made by Indian weavers in order to help the cloth industry of Britain. But the government refused to levy a similar tax in India on British cloth to help the Indian industry. The pressure of the British factory owners and traders on the government was so much that it could not go against their interests.

In 1896, the income of British government of India reduced a lot. The government started thinking of ways to increase its income. So, in its time of difficulty, the government levied a three and a half percent tax on cloth coming from Britain to India. But it did not want to harm the sale of British cloth. So, it also levied the same amount of tax (three and a half percent) on cloth being made in India as well.

This tax became the cause of a long conflict between the Indian people and the British government. Indians had understood that the government would protect only the interests of the British factories. Indian people opposed this tax in India and demanded to remove it.

Even without government protection, factories producing cloth, thread, sugar, jute, paper, matches, cement etc. were set up in India. Their rapid development, however, took place only after 1914.

- Discuss what 'protected market' means.
- The Indians demanded that a tax be imposed on British goods coming to India. Do you think this was a fair demand? Should the government have treated British and Indian industries equally?

Indian Industry during the First World War

During the First World War (from 1914 to 1918), the import of foreign goods into India reduced. One reason was that cargo ships were on war related duties, and hence there was a shortage of ships. Secondly, in the factories of Europe, things needed for the war were being made. So very few goods meant for the Indian markets were available.

Under these circumstances, the factories that had been established in India started selling their goods in large quantities. Because of heavy sales, there was a rapid development of industries. After the war ended, Indian factory owners purchased a large numbers of European machines and set up new industries. Indian industrialists began demanding that the government should levy a tax on foreign goods so that the sales of Indian goods might continue in future as well.

The government had to accept this demand for many reasons. After 1917, taxes were levied on many foreign goods, one after the other. As a result, factories set up in India were able to develop speedily.



Fig. 16.5: An early sketch of Bankers in Delhi.

- Why did a rapid development take place in Indian industry during the First World War?

Problems of Indian Industry at the Time of Independence

After a long struggle, Indian industry had got a little help from the British government. Yet, a very large number of factories, banks, ships etc. were in the control of Europeans. Europeans had many advantages for these companies. They could easily contact officers and authorities of the British government, whereas Indians were never able to do so. All the foreign trade was in the hands of European companies, hence, they had no shortage of funds either.

Even though the Europeans had more influence on industries, Indian industrialists developed a great deal. For example, Indian industrialists were able to control the textile industry. The greatest example of the achievements of Indian



Fig. 16.6: Some of the pioneers among Indian industrialists J.N.Tata, R.D.Tata, Sir R.J.Tata and Sir D.J. Tata.

industrialists was the steel factory at Jamshedpur that was set up by an industrialist named Jamshedji Tata.

The tax on foreign goods was a great help for the Indian industrialists from the government, but this was not sufficient. Many resources and facilities were needed such as railways, roads, electricity, coal and iron. However, the British government did not pay attention to development in these areas.

Indian industrialists also had to buy all their machines from abroad. Industries that would manufacture machines had simply not started in India.

For the development of industry, help was needed from scientists, engineers, and technicians. Educated workers were needed at all levels. But education was not given importance in India. Industrial development depended on foreigners because very few Indian scientists and engineers were there.

In order to promote Indian industry, many organisations of industrialists were formed even during British times. One of the most important was the Federation of Indian Chambers of Commerce and Industries (FICCI). Such organisations brought up the problems of the industrialists before the government.

- What industries were established in India during British rule?
- What were the difficulties in the development of Indian industries at the time of Independence?

With the end of the British rule in India and the formation of a free government, the situation changed. The government of India gave encouragement to the growth of industries in a planned manner.

Labourers in Indian Industries

Industrial Towns and Labour Settlements

From 1850 onwards, machine-based industries had started setting up in India. The biggest industry was the spinning and weaving of textiles. In 1905, around 2.25 lakh labourers were in the textile industry, 1.5 lakh in the jute industry and about 1 lakh in coalmines.

Needy farmers, labourers and artisans started coming from villages to the cities in the hope of employment. Along with them or after them, their relatives, neighbours, and friends also came. The number of labourers in cities increased. Huts and tenements of labourers started setting up around factories. Many cities

of India, such as Kanpur, Mumbai, Ahmedabad, Kolkata, Chennai, became large industrial cities.

Work Conditions

In the early phase, work would begin every day at dawn in the mills, and would stop only at sundown. The labourers would wake up early and go to the mills - men as well as women and even children.

Once they started working on the machines, there was no question of stopping. There was no fixed break even for meals. The labourers would eat their food in 15 - 20 minutes break from work, and would ask a fellow labourer to look after their work. There was no separate place to eat either.

The labourers spent the whole day in the heat, humidity, noise, dust and suffocation of the mill. Only when the sun set and it became impossible to see in the dark, the machines would stop and work would end.

This would go on for months. Even a weekly holiday was not allowed. They were given a holiday only for the major festivals of the year.

However, it is not possible to work every day of the year. Sometimes they fell ill or had to attend to family duties. People also got exhausted and tired of monotonous work. But if they did not go to work, they lost the day's wages.

In those days, payment was made in proportion to the amount of goods produced. The owners laid the condition that "as much as you make, so much will you be paid." Sometimes things went wrong with the machines, or the supply of raw material was delayed or it was inadequate. Although this was not the fault or the responsibility of the labourer, yet the mill owners would deduct the labourer's money. Thus, labourers were not able to get any fixed income each month.

At the end of the month, the mill owner would not even make the full payment to the labourers. He would keep some money till the end of the next month. In such a situation, if labourers wanted to leave the work and go away they could not - because their earlier month's wages were still stuck with the owner.

There were also plenty of fines. The owners would fine the labourers for the smallest reason - if they came late, if the cloth got spoilt, if the owner thought the labourer did not work sincerely - there would be fines and they were deducted from the month's wages.

All the labourers - men, women, and children - had to work under such conditions for 14 hours in the summers and 12 hours in the winters.

Then, in 1880, something new happened. Electric bulbs began to be fitted in the mills. As the hours of light increased, the hours of work also increased. Now it was not necessary to stop work when the sun set. And now it became common to take up to 15 hours of work each day from each labourer.



Fig. 16.7: A poster showing men, women and children walking towards the mills.

There were so many hardships at work and, on top of it; there was no security of employment either. If a mill suffered losses, the owner would simply throw out some labourers and reduce the wages of those who continued to work.

In the early days of factories in India:

- What were the rules regarding work and rest for labourers?
- What were the rules regarding payment of wages?
- For what reasons would there be cuts and reductions in the labourers' wages?

However if the mill earned a profit, would the owner ever increase the wages? No, that hardly ever happened!

Labourers' Struggles

Labourers struggled against their oppressive working conditions. From 1870, there was one strike after another in Mumbai. To begin with, there were no organisations or unions of the labourers. The labourers of each mill would get together to go on strike and would put pressure on the owners.

For instance, in 1892, mill owners of Mumbai were thinking of reducing the wages of labourers. When the labourers got to know about it, they prepared themselves for a struggle. The government had appointed an official for the inspection of factories. This is what the factory inspector wrote about the labourers: "If a reduction in the wages is actually made, it is possible that there will be an overall strike in Mumbai. Though there is no organised trade union of the labourers, most of the labourers belong to common castes, clans, villages and can easily unite and take steps."

Here's one example of how the labourers would struggle to protect their own interests. In 1900-1901, around 20 mills of Mumbai reduced the labourers' wages by 12½%. In response to this, 20,000 mill workers stopped work and went on strike. All the 20 mills remained closed for 10 days.

Similarly in 1919, the cost of living was rising but the labourer's wages were not being increased. So, the labourers of all the mills of Mumbai went on strike and the mills were closed for 12 days.

The labourers not only fought for their wages, they also fought against the British for the freedom of India. In 1908, the British sent the famous Indian freedom fighter, Lokmanya Tilak, to 6 years of exile from India. In short time, the labourers of all the mills of Mumbai went on strike against this for six days.

- Why did labourers go on strikes?
- Why were strikes used instead of any other action?



Fig. 16.8: A poster depicting labour meeting.

Addressing Labourers Problems

The strange thing was that in the beginning most of the educated people of India did not pay attention to the problems of the labourers. For them, it was more important to find ways to develop industries in India. In the earlier phase, they did not think much about the kind of working conditions that should be there for labourers.

But surprisingly, in Britain, the factory owners, traders and social workers were worried by the condition of Indian labourers. They began talking to the government about these problems.

The industrialists and social workers of Britain began to put pressure on the government that there should be laws to improve the condition of labourers in India similar to the laws in Britain. As a result of this pressure, the government seriously started thinking of reducing the working hours of labourers and making laws that would give labourers holidays.

The industrialists and educated people of India were unhappy about this change. They felt that once labourers were given fixed incomes and other facilities such as leaves, the production would come down and the expenses of the owners would go up. This would, in turn, make the things produced in the factories more expensive. If this happened, goods coming from Britain would sell more easily and the development of Indian industries would come to a standstill.

Laws for the Welfare of Labourers : A Time line

The government implemented the first Factory Act in 1881 and made the following rules especially for the welfare of working children:

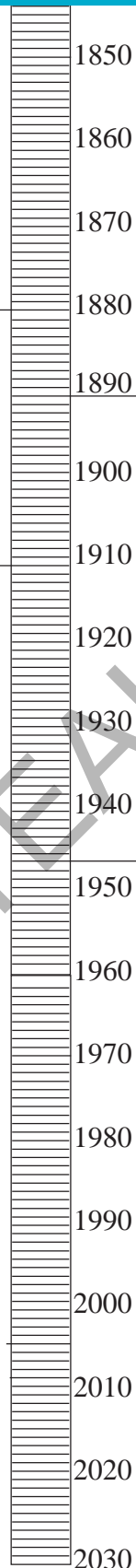
- Children below the age of 7 cannot be employed in factories.
- Children between 7 and 12 years of age cannot be made to work more than 9 hours a day and they must be given a one-hour break each day. They must also be given 4 days leave each month.

The largest number of labourers in industries was that of men. It wasn't until 1911 that laws for their welfare were made. According to the Factory Act of 1911:

- Adult male labourers could not be made to work for more than 12 hours every day
- After every six hours of work there would be a break for half an hour.

- In which year were you born? Mark it on this timeline. Also mark the births of your parents and some grandparents or other old relatives you can find out about.

- Find out whether any of the people whose births you marked were affected by the labour laws.



In 1891, laws were made in the interest of women labourers to ensure that:

- Women labourers cannot be made to work more than 11 hours a day.
- Women labourers must be given an hour and half break each day.
- Children's working hours were reduced from 9 to 7 hours/day and factory employers were forbidden to employ children below 9 years of age.

India and Pakistan get independence from Britain

- Why did the educated people of India not pay much attention to the interests of factory labourers in the beginning?
- How would the labour laws have affected the industrialists?
- The British industrialists were against the development of factories in India, yet they took the side of Indian labourers. Why?
- Below what age could children not be employed as labourers in British times?
- What do the present laws set as the minimum age, below which children cannot be employed as labourers?
- According to the labour laws what was the maximum number of hours that children, women and men could be expected to work?

Indian industrialists were suspicious that the British industrialists were just pretending to show concern for the welfare of the Indian labourers. Maybe they actually had their own interests in mind.

The educated people in India had also come to believe that if laws were made in the interest of the labourers, industries would not be able to develop in India. A few lines published in a major newspaper of Bengal in 1875 show the thinking of those days: “Rather than this new industry be destroyed it is better that labourers keep dying in high numbers once our industries are well-established, then we can protect the interests of our labourers”.

There was this fear in the minds of industrialists and the educated people, but it was not fully justified. Factories set up in India had begun to earn profits. New mills were being opened up all the time. Whatever labourers needed, the conditions of the risks, an improvement in working conditions became relevant because industrial development lay in the hands of the labourers.

Labour Organisations

With time, the problems of the labourers became well known. Some educated people began supporting the labourers and they began writing articles in newspapers to explain their problems to people. Small organisations for the welfare of labourers also started emerging.

During strikes labourers formed their own organisations with the help of some educated people. These were labour unions, formed to conduct the strikes and negotiate settlements with the mill owners. Slowly, the trade unions became active not just during the strikes but all around the year, promoting the workers’ welfare and rights. Such unions began to be established from the early 1920’s. People influenced by socialist thought were prominent among them. One such union formed was Girni Kamgar Union with the help of which workers in Mumbai went on a very effective strike in 1928. In Ahmedabad, under the influence of Gandhiji, a powerful union known as the Mazdoor Mahajan was formed.

The formation of labour unions made the government and mill owners very anxious. Now, laws began to be made to put restrictions on strikes. The government appointed labour officers to look after the welfare of the labourers. The government



Fig. 16.9: In 1931 these millworkers in Lancashire, England were happy to meet Gandhiji and express solidarity with the Indian freedom movement.

- Which were the two main labourers' unions to be formed in India during British times?
- Why is a union or labourers' organisation important for labourers? Discuss.

began making efforts to ensure that the labourers solved their problems through the labour officers, rather than go to the unions.

But the labourers did not agree to this. They considered it better to form

their own organisations to protect their interests. In this way, a struggle continued between the labourers on the one hand and the government and factory owners on the other, on the question of the right to form unions and the right to go on strike.

Keywords

- | | | |
|------------------------|-------------------------|---------------------|
| 1. Reserved forest | 2. Protected forest | 3. Auctioning |
| 4. Social Workers | 5. Industrialist | 6. Marwari traders |
| 7. Strike | 8. Labour Organisations | 9. Industrial Towns |
| 10. Labour Settlements | | |

Improve your learning



1. How did people use the forests before the rule of the British? Why was there less danger of the forests being fully destroyed in those days?
2. Whom did the adivasis revolt against? In what ways did they demonstrate their anger and protest? Give some examples.
3. How were the revolts of the adivasis suppressed by the British?
4. Make a timeline to show when adivasi protests occurred in different parts of India.
5. What problems did the Indian industrialists have with the British government?
6. During the British rule, why was it easier for the European companies rather than Indian companies to set up industries? Give a few reasons.
7. Labour laws were first made for child labourers, then for women and lastly for men. Why were these laws made in this order?
8. How could education affect industrial development? Discuss in the class.
9. Identify the large industrial cities in an outline map of India during the 20th century.
10. Find out the names of the places where each of these adivasi struggles took place, and mark their locations on a map of India.
11. Read the paragraph under the title 'Adivasi Revolts' on page 206, 207 and comment on it.

Project

1. Visit an office of the Forest Department and interview the official on how forest could be preserved and wisely used by both industries and local people.
2. Visit a nearby factory in your area find out its history – how has the technology changed, where do the workers come from, try and talk to the employers and some workers to get their views.



In an earlier chapter, you read about the many democratic revolutions which established democratic forms of government in Europe. Establishing forms of government which are in accordance with the wishes and requirements of the people, in which all people are able to participate freely and fully, in which all kinds of people find respectable space, is a dream for which people are still striving all over the world.

Let us look at the example of two countries where the people have been struggling for democracy in recent times. These are Libya and Myanmar.

- Locate Libya and Myanmar in the world map. Which continents are they located on?



Fig. 17.1: Peoples' protest

Libya

Libya is a poor country in North Africa which had been colonised by Italy for a long time and became free after a long struggle in 1951. When Libya became independent, Italy transferred power to King Idris who ruled the country with the help of a few rich and powerful families.

The people mostly belonged to different tribes which depended upon agriculture and animal rearing in the deserts. These tribes were dominated by families of traditional tribal chiefs. In 1959, vast reserves of petroleum were found in Libya and a lot of wealth poured into the country from the sale of petroleum oil. The King and a few powerful families cornered most of this new wealth. Around this time, a new wave of nationalism was sweeping in Northern Africa – the young people wanted to establish a modern state that was not subservient to the interests of colonial powers and which worked for the welfare of the people. They also wanted to reform their country – end the oppression of women and the constant warfare among tribes

and establish unity and peace. They also wanted to ensure that the new wealth from oil was distributed more equitably to all. Many people in Libya were also inspired by these ideas.

In the year 1969, Muammar Gaddafi and a group of 70 young army officers took over the control of the Kingdom of Libya. This group of officers called themselves Free Officers Movement. King Idris I fled the country, monarchy was abolished and the country was declared a the 'Socialist Libyan Arab Republic'. The army completely supported this take over. The movement was carried out under the leadership of a Revolutionary Command Council (RCC) consisting of 12 members from the military. This new leadership wanted to develop Libya as a modern egalitarian country and at the same time, follow the basic tenets of Islam, which was the religion of majority of the people.

As we read above, Libyan society was initially tribal led by the families of tribal chiefs. People were more concerned about their own tribe and its honour

- What kind of problems do you think the given conditions pose for establishing a democratic government?

than about the welfare of all people. Most people were poor nomadic animal herders who were also illiterate. Women were confined to purdah (veil) and were not allowed to participate in public activities.

The new regime instituted several reforms which led to the rapid growth of Libya – nationalisation of oil resources; a programme for extension of cultivation giving irrigated lands to poor workers in order to end nomadism; free universal education for all including women; free medical care for all; distribution of share of oil profits among all citizens; development of highly subsidised housing schemes for all. A major reform undertaken was to ensure freedom and equal status to women. Women were now allowed to have property and business, and take up jobs in the government. As a result of all these, Libya was able to achieve the highest levels of social welfare in the whole of Africa. Average life expectancy increased from under 50 years to 77 years. Literacy rate for both men and women is over 90% today.

It was difficult to encourage bringing democratic participation of all people in Libya due to conditions of tribalism, nomadism, illiteracy and restrictions on women was difficult. The new Libyan leadership tried to encourage participation of common people in public affairs by creating peoples councils and elected People's Assembly in the centre. As the society rapidly changed due to development, an educated middle class emerged and began to participate in these bodies. However, the government under Gaddafi was not ready to trust these democratic bodies. Instead, it created a parallel system of leadership of 'Revolutionary Councils', which were appointed and closely controlled by Gaddafi and the RCC. The democratic bodies had to implement the decisions of these non-elected leaders. As a result, people lost interest in these bodies but the government kept trying to enforce their participation. The RCC was also very intolerant of criticism and

opposition. It used brute armed force to arrest, torture and kill political opponents. There was no freedom of the press, and independent organisations like trade unions or other associations were not allowed. No political parties were allowed to function in Libya.

Such dictatorial functioning helped to consolidate the position of a few powerful families that controlled the government and the RCC and the oil companies owned by the government. They came to be hated by the people for their high-headedness but the people had no way of expressing their discontent.

Rapid development, urbanisation, emergence of new economic opportunities and jobs meant that tribal way of life was slowly getting eroded and people of different tribes began to mix up and live together in cities. Most of the new jobs were available in government sector which controlled all the oil resources, trade and industry. The new middle class emerged in Libya which was keen on taking up business and industry but such opportunities were closed due to government policies and control of the powerful families.

In the latter half of 2010, there were movements to establish democratic governments across the Arab world. It began with a small country, Tunisia, and spread to Egypt, Libya, Yemen, Bahrain and Syria amongst others. This revolutionary wave of demonstrations, protests, and wars taking place in the Arab world that began in December 2010 is now famous as the 'Arab Spring'.



Fig. 17.2: A street painting in Egypt, another country where democratic movement occurred during this decade.

Change in Libya

In cities like Benghazi, the civic amenities were deplorable. A large number of its citizens were unemployed, and many families did not have a stable income. People from across the country began to interact through internet and mobile phones to share their misery. However, state owned media refused to report them. In early January 2011, a group of people began to protest over delay in the building of houses and political corruption in the city of Bayda in the north eastern part of the country. It began with peaceful street marches. There were attempts by police to crush it down. These protests spread to other cities.

By February, the protests began to take a violent turn. In the city of Benghazi, people marched against the police, there was firing and people were injured. A section of people also began to get arms and weapons for themselves. These rebels included a group of professional soldiers who had left the government's army, but

the majority were ordinary people: lawyers, workers, engineers, teachers, students etc. A coalition of all groups that opposed Gaddafi government came together. The security forces fired at the people. Protesters attacked government buildings. They also captured the local radio station. People demanded different things, from renewing earlier constitution to establishing multi-party democracy. The Gaddafi government also tried to gather its supporters and stage demonstrations in support of him. In the days that followed, there was a major civil war. Ordinary people armed themselves, while some army members also joined the people. Gaddafi used his army and air force against the people to crush down the protests and many people were killed.

Many powerful countries of the world like the United States were keen to intervene and end the Gaddafi rule and install governments that were more favourable to them. These countries did so because of the desire to control the large oil reserves of Libya. These countries also supported sections of the rebels and pushed Libya into civil war. The United Nations Organisation also intervened in support of the rebels by declaring Libya to be a 'no fly zone' – in order to prevent the government from using air bombing against the rebels. However, since the government continued the air strikes, France, US, Britain etc. jointly used their air force to

Civil War : A war within a country among different people, parties or regions.

bombard Libyan government positions. Libyan people eventually succeeded in overthrowing the Gaddafi regime.

A new government was established and sworn in on 14th Nov 2012 as a result of free and fair elections in which over 100 political parties participated and 200 representatives were elected. They have also formulated an Interim Constitution. There is possibility and hope for a democratic government in Libya even in the future. The international community is watching Libya to see if democracy will be a success in Libya and if it will be able to survive and strengthen its democratic processes or not.

- Even though the people had benefitted much from the Gaddafi government, why do you think they rose in rebellion against it?
- Even though the Gaddafi government claimed to be a democratic government, what aspects of democracy were absent? What aspects of democratic government were present in it?
- Why are civil liberties important for democracy? Explain in the context of Libyan experience.
- Dictators try to control press and TV media. Do you know other ways of sharing information and ideas between people?
- The Tunisian struggle began with the death of one trader. The struggle gained strength largely through the use of social networking websites like Facebook. Why do you think is it not easy for governments to control them?

Myanmar (Burma)

Locate Burma (modern name – Myanmar) in the world map. India shares borders with this country. Burma, like India, was a colony of the British. It was a major supplier of teak wood, food crop like rice and minerals like tin and precious stones like rubies and sapphires. Burma also became independent just 5 months after Indian Independence. They established a parliament with two houses like India. There were elections in 1951, 1956 and 1960 in which different political parties contested. It appeared at that time that Burma too would emerge as a democratic republic like India. However, the Burmese did not have a united political party to lead them at that time.

You may remember that, in 1947, India had a large number of princely states like the Hyderabad state and it took a few years to weld all of them into one Republic. Similarly, Burma too consisted of a large number of small states and ethnic-linguistic regions.

In 1947, Aung San, a leader of the Burman ethnic group, who had led the country to independence (He was also the father of current opposition leader Aung San Suu Kyi), and leaders of the many ethnic minorities negotiated an agreement which would guarantee ethnic rights and self-determination, and the inclusion of minorities in the democratic process. However, Aung San was assassinated. Soon after, the Burmese military began its slow advance into the ethnic states to rule by force. Many ethnic groups took up arms to protect their states from Burman rule, demanding autonomy, ethnic rights and an inclusive democracy. As the ethnic strife became complex in 1962, the elected government was overthrown by a coup and army General Ne Win took charge of the country. He tried to nationalise all industries and mineral resources. Free public health and education system were established. Between 1962 and 1965, important laws against landlords and usury were adopted. They aimed at protecting peasants' rights to have land and property and to rent the land. These measures included the law abolishing rents on land in order to help the poor peasants.

Autonomy : The freedom for a country, a region or an organisation to govern itself independently.

The army generals have been ruling the country since then. The rulers claimed they were following socialist policies. This only placed the major resources of the country in the hands of the army generals. Unlike Libya, where the army rule

led to development and welfare activities, Burma did not see any development and became an impoverished country where peasants were forced to sell their children to the army and work in the mines in semi-servile conditions. The Generals who ruled Burma are accused of gross human rights abuses, forcible relocation of civilians and widespread use of forced labour, including that of the children.

Students usually took the lead in staging protest against the military rule but all such protests were suppressed by the army. In 1988, a major protest against the army rule broke out and was brutally suppressed by killing thousands of demonstrators. A new military council took over the power in the following year promising elections. It was around this time that Aung San Suu Kyi (pronounced Su Chi) began to fight for reforms in Burma. Suu Kyi has since been a central figure in the protests and the struggle for the establishment of democracy in Burma.



Aung San Suu Kyi: A poster from Myanmar supporting Democracy.

The rulers declared elections in 1990. In this election, a new political party National League for Democracy (NLD) led by Suu Kyi won majority (80%) of the seats even though Suu Kyi was in prison. But the military refused to hand over power or even release Suu Kyi. She was kept under house arrest. She remained a prisoner in her house without permission to move around and interact with people. She wasn't even able to attend the funeral of her husband or meet her two sons.

There is also international pressure created through economic sanctions. This disallowed trade between Burma and those countries. As a result, Burma is not able to export its products or get necessary imports. This puts great pressure on the economy. Even though this ultimately

harms the common people of that country, 'economic sanctions' are used to bring pressure on the rulers. Over the years, there has been worldwide pressure on the military government to extend civil liberty and usher in a democratic government.

Change in Burma

From the year 2008, there have been different forms of changes taking place in the country such as conducting a referendum to get a mandate for establishing democracy, changing the name of the country to a “Republic of Democracy”. However, the government continues to be formed partly through the election and partly under nomination from the military. Elections were held in 2010 under the observation of United Nations. However, Suu Kyi was barred from contesting the 2010 election and was released from her house arrest only after the election. Her party refused to contest this election. As a result, the military backed Union Solidarity and Development Party won most seats. There are allegations of malpractices during the election. The military junta was dissolved and Thein Sein became the President of the country.

- Do you think democracy can survive in Myanmar? Give reasons.
- Why do you think was democracy not established in Libya after its independence?
- How did students and youth play an important role in bringing democracy to both Libya and Burma?
- What similarities of events do you find in the description of events in Libya and Burma?
Answer this keeping in mind – Leadership; nature of struggle; process of transition.
- Underline the statements that are relating to Political Party and Voting in both Libya and Burma.
- Track the changes that you may have heard about in Libya and Burma during the year 2012 and write about them.

Some features of democracy and dictatorship

You read about two recent struggles for democracy. Even though the two countries were very different, the people wanted a form of government which had some broad similarities.

Gaddafi and the RCC worked for a welfare state in which the basic needs of all people were met. All the had an opportunity to improve their lives through education and jobs. Similarly, the Burmese junta began with some welfare measures and land reforms but went on only to increase the control of the army. The army exploited the resources and people of the country. As a result, people were subjected to extreme poverty. However, both the countries were ruled by people who got their

main support from the army. They did not allow free elections or functioning of political parties. They both did not allow elected representatives to form governments. They did not allow freedom of expression, freedom to form organisations or freedom to protest against the government.

In both the countries, people wanted a government that would be elected by the people through a free and fair process. In both the countries, people wanted freedom to express their views, freedom to organise and freedom to protest against what they think is wrong. Similarly, in both the countries people wanted many political parties to be able to function freely.

Burma was different from Libya in that it began with democratic system and slipped into army rule while Libya moved from monarchy and slipped into army rule. However, both the countries did not have favourable conditions for a democracy to flourish - they were deeply divided politically and ethnically which made it difficult to arrive at an inclusive political settlement.

The March of Democracy

Ever since the birth of modern democracy in 17th century England, there has been a gradual transformation of political systems across the world to conform to the democratic ideals. Initially, democracy helped the social classes that were opposed to feudalism and monarchies to build a new kind of social order which rejected privilege by birth and divine right to rule. Europe and America went through great revolutions during the 18th and 19th centuries to bring this about .

Industrialisation and colonialism created conditions all over the world which favoured democratic ideas. An educated middle class which was inspired by the democratic ideas emerged in most countries. Even though each country had its own distinct social system and distinct problems, democracy appeared to create the framework for just settlement of those problems. Thus, each country is evolving a model of democracy suited to its needs.

In the 20th century, democracy became the slogan of anti-colonial struggles in Asia and Africa to build independent nations. India, Sri Lanka and South Africa are some examples of this process. Some of these countries were able to attain freedom and establish stable democracies. However, many of them could not build stable democracies (as in the case of Burma or Pakistan). Military dictatorships got established. In countries like Pakistan, military dictatorship and democratic rule kept coming in cycles. In most of the countries under military dictatorship, the people are organising movements to establish democracy. We saw the examples of Libya and Burma where such changes have begun only recently.

During the 20th century, another form of political system came into being which is known as the 'Communist' system. The Communists believed that Parliamentary democracy of the type that is practised in England only helped the rich capitalists to control the country and could not represent the real interests of the poor working people. They believed that this was possible only through the establishment of the 'dictatorship of the proletariat' or the workers. This dictatorship was needed to ensure that the rich and powerful landlords and capitalists did not get any power or opportunity to pursue their policies. Such political systems were established in Union of Soviet Socialist Republic or USSR (Soviet Russia) after 1917, in Eastern Europe after 1945, in China after 1949 and in Vietnam and Cuba after 1960. These countries built 'socialist' economies in which all land and factories were owned by the government and education, health and employment was ensured for all and a degree of equality was established.

However, these countries did not allow multi-party elections and one party usually ruled for several decades; they also established state control over media and did not allow people to freely form associations that opposed government policies. In short, they did not allow open criticism of the government policies or attempts to change the government. Thus, even though they claimed to be working in the interest of the poorest people and bring about genuine democracy for the poor, they ended up curtailing the freedom of the people. In 1991, the USSR broke up as people demanded freedom and democracy like other western countries like USA. Following this, many small countries of the former USSR, like Russia, Ukraine, Estonia, and other East European countries like Poland and Hungary ended the communist rule and established parliamentary democracies. Of course, this has not been easy for them and many of them too have slipped into military dictatorships and ethnic warfare.

Today, it is increasingly becoming clear to the people that democracy which respects the freedom and rights of all people may be the best way to solve some of the complex problems the countries face. Today, a new kind of democracy is being forged across the world in which even the poorest and the most vulnerable people will have a voice and will be able to influence policies and ensure justice and peace for all.

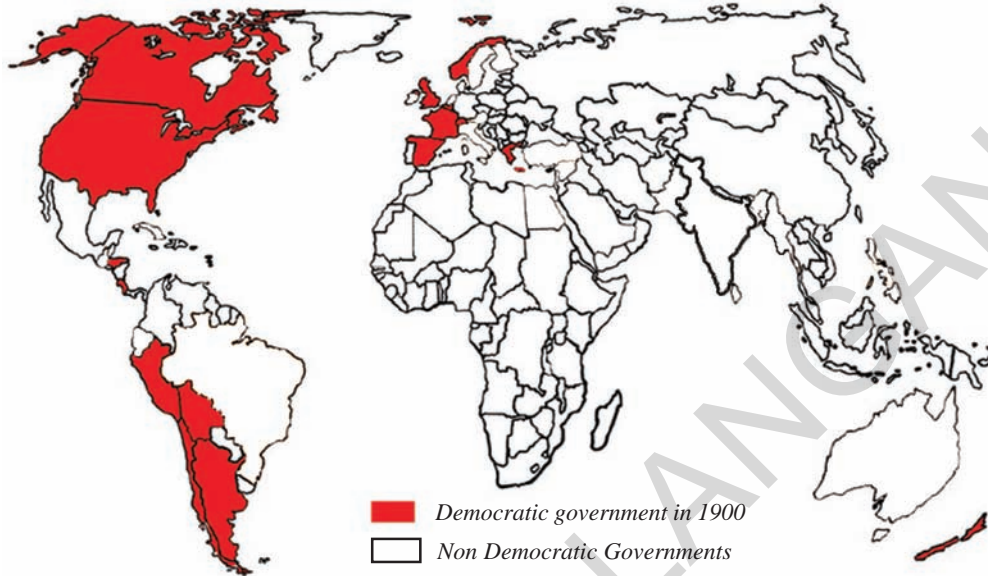
Keywords

1. Nomadic animal herders
2. Urbanisation
3. Political corruption
4. House arrest
5. Dictatorship
6. Monarchy
7. Feudalism

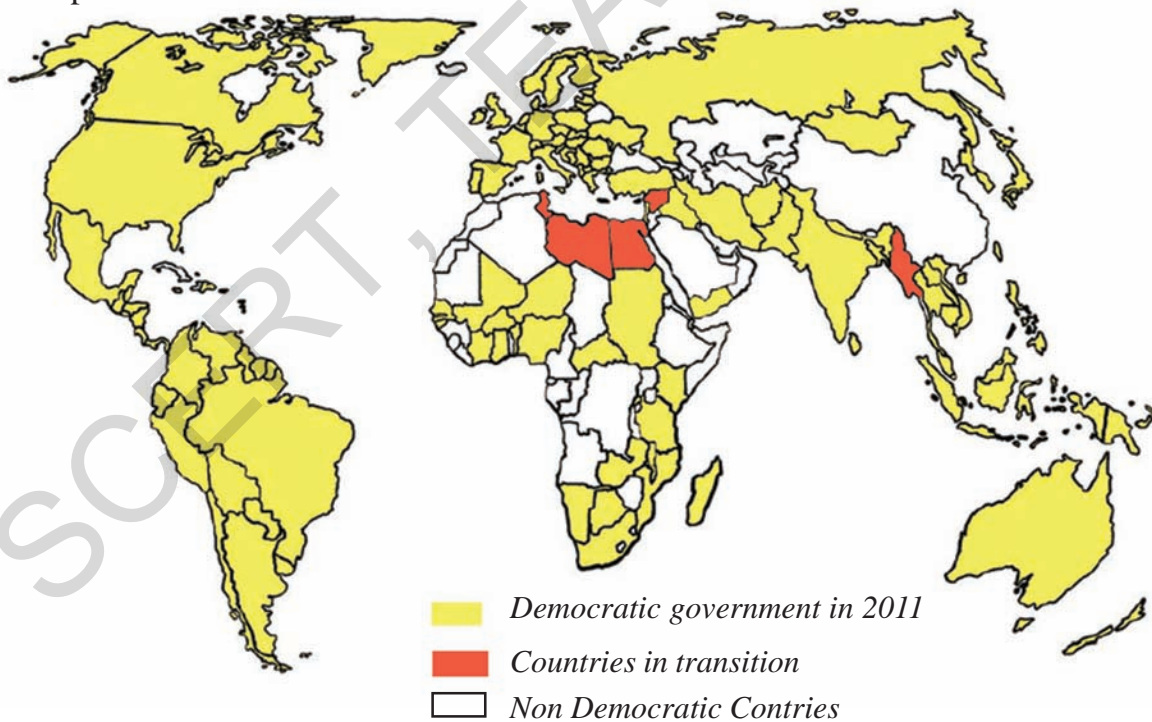
Improve your learning



Map 1: Democratic Governments in 1900-1950



Map 2: Democratic Governments in 2011



1(a). On the basis of these maps, identify upto three countries (in some cases you won't find three countries) that were democratic in these continents for the given years and make a table as given on the next page.

Year	Africa	Asia	Europe	South America
1900				
2011				

- b) Identify some African countries that practised democracy in 2011.
- c) Make a list of big countries that were not democratic in 2011.
2. Most countries often claim themselves to be democratic by conducting elections. How did this happen in the context of Myanmar and Libya?
3. Why do you think do the rulers try to control the media? Do you know how is media controlled in your area?
4. Write an imaginary dialogue between a person from Libya and Myanmar comparing the events and struggle for democracy in their respective countries.
5. How do literacy and mass education help for the functioning of democracy?
6. What is the difference between democracy and dictatorship?
7. What is the role played by Aung San Suu Kyi in fighting for democracy in Myanmar ?
8. Read the last paragraph of this chapter and answer the question :
What is a new kind of democracy?

Project

Read the newspapers and note down any news related to the struggle for democracy in Libya or Egypt or any other country. Prepare a file of such news clippings and display in the class room.

Democracy - An Evolving Idea



Fig. 18.1: You can vote if you pay taxes



Fig. 18.2: You can vote if you are educated



Fig. 18.3: You cannot vote if you are women

You read about the beginning of democratic government in England, USA, France in the 17th and 18th centuries as well as the most recent movements for democracy in Libya and Myanmar. The evolution of democracy has had many ups and downs. Popular rule was established and then overthrown and monarchies established. Even where popular rule was established, it meant only the participation of a few people in electing the rulers. Slowly, the meaning of democracy broadened and it developed many new layers and shades. At the same time, it has also raised many questions which are not easy to answer. Let us consider some of these questions. Discuss the questions in the class room as well as with your friends and relatives.

Democracy Means Responsible Governments

Democracy means a system in which those in government get their authority from the people and have to answer to the people. This usually happens through the process of leaders being elected by people at definite intervals.

You saw in the case of Libya that ultimate power lay with the Revolutionary Command Council (RCC) which was self appointed and not elected by the people or bound by what the people's representatives ordered. There were elected assemblies in Libya but they could not take independent decisions and had to implement the orders given by the RCC. The RCC was not answerable to anyone except itself.

In a democratic country, the power of the elected representatives would be supreme and no one who is not directly elected by the people can exercise any authority over them.

The elected government functionaries are answerable to the people in different ways. First of all, there would be

elected assemblies in which the government functionaries would be asked to explain their work get the plan of work. Secondly, any citizen would have approved a right to demand information about any work done by the government and the government has to disclose such information. Moreover, after a definite period, elections would be held again and the functionaries will have to seek fresh election from the people. The people can ask them to explain their work and reject them if they are not satisfied with the work.

- Do the millions of poor people really have any control over the functioning of the elected functionaries? Does democracy mean rule by people or merely rule by elected persons? How can people really participate in the working of the government on a day to day basis? Discuss these issues in the class and at home.

Democracy is based on equality and inclusiveness: When we say ‘rule of the people’, we mean all people who are adults, whether they are men or women, rich or poor, black or white, Hindus or Christians or Muslims or atheists, whether they speak one language or the other. Democracy took a long time to establish itself. Let us take the right to vote in elections as an indicator. Initially only a few propertied men could participate in the process of voting. Slowly, the right was extended in some countries to even the poor men, then to women and eventually to people of all races and religions. USA allowed white woman to vote only around 1920. The discrimination against Black citizens was removed only in 1965. The first nation to allow voting rights for all groups of people was New Zealand in 1893. In New Zealand women and black people went through great struggle to achieve this. The first large country to give universal voting rights to its citizens was USSR after the Russian Revolution in 1917. Yet, even to this day, many countries make laws which discriminate against some communities:

- Estonia has made its citizenship rules in such a way that people belonging to Russian minority find it difficult to get the right to vote.

- In Fiji, the electoral system is such that the vote of an indigenous Fiji has more value than that of an Indian-Fijian. It was from the year 2013 elections that an equal right to vote is being implemented.

Democracy is based on the fundamental principle of political equality and inclusiveness. In a democracy, each adult citizen must have one vote and each vote



Fig. 18.4: You can't vote because you belong to a different race



Fig. 18.5: You can't vote because you are too young

must have one value. Our constitution provides universal franchise to all the citizens above 21 years of age.

- Even today, most countries do not give voting powers to people who have migrated from other countries. Actually, millions of people across the world live without these democratic rights simply because the countries they live in treat them as illegal immigrants. This is the plight of South American immigrants in the US or Turkish immigrants in France or Germany. Such immigrants and refugees are found all over the world including India. Should they not be a part of democratic governance? Think of some reason for your answer.

Democracy requires active participation of citizens: Often, democracy is taken to mean only voting in elections and choosing the rulers. However, democracy also means that citizens should participate in the making of policies and laws by the government and implementing them. How can this be done? This is possible when all policies and laws are made after extensive public discussions in which people participate and openly express their needs and views. It also requires that people be involved in effective implementation of the policies and laws – by forming independent citizens committees. This kind of participation of people is not easily achieved. In many countries, even the elected

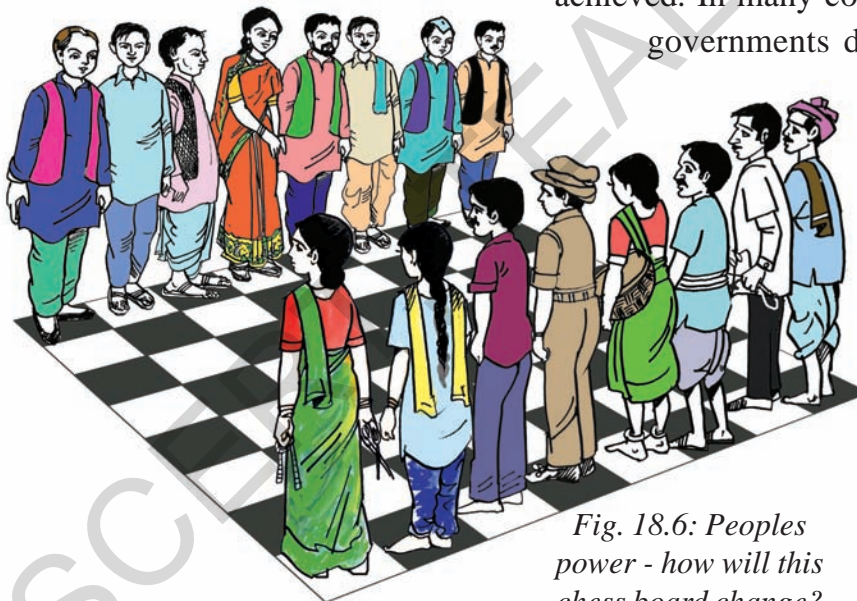


Fig. 18.6: Peoples power - how will this chess board change?

governments do not encourage public participation. The people also do not show active interest in public affairs and remain apathetic. For example, in the much publicised elections for the President of USA in 2012 more than 40% people did not vote at all.

Democracy requires civil liberties: People can participate in decision making only if

they are free to know, discuss, form independent opinions and express them and form associations to press for their views. These are also called civil liberties. However, these rights were not gained by people easily. Governments sought to control free speech, free

- Why don't people want to participate in governance? Is it because of lack of knowledge or lack of interest or a feeling that they don't have a real say in things?

associations and the right of people to know about public affairs. Most government decisions were kept secret from people; the newspapers and books were censored and views that went against the government were not allowed to be published; people were not allowed to form political parties or trade unions or organisations of their choice but only one party or officially sponsored parties were allowed to function. Many of these rights, for example, were not available to the people of the USSR even though there was universal right to vote and periodic elections. That is why they had to put up with one party rule for nearly 60 years. Even today, these rights are not available to people in all countries. Restriction on civil liberties helps governments to remain in power.

Democracy requires equality: We noted earlier that democracy requires political equality – that each person will have one vote. However, for this political

equality to be really effective it also requires equality of social and economic status. If the society is divided into highly unequal classes of

- Many governments give people the civil liberties. But they keep a careful watch on the activities of the citizens by tapping their telephones and letters, spying on them etc. Do you think this is justified?

rich and poor or high castes and low castes, then the political equality will become meaningless. Those with higher status and wealth can easily force the rest to vote according to their choice. In a large number of families, the male heads of family decide for whom everyone in the family, including women, should vote for. In many countries like the USA, most of the media is owned by very rich corporate houses or media barons. They effectively manipulate and influence public opinion by what they highlight and what they block out. The rich and powerful also have immediate access to members of the legislature and ministers and are in a position to influence their policies and programmes.

On the other hand, the poor and illiterate people have no such access to the government circles. Thus, the governments of many of these countries

follow policies which seem to be contradictory to the interests of the poor and in favour of the rich. Thus, it can be said that true democracy cannot be attained unless there is social and economic equality along with political equality.

Table 1: Inequality of Income in Selected Countries

Country	Share of National Income (%)	
	Top 20	Bottom 20
South Africa	64.8	2.9
Brazil	63.0	2.6
USA	50.0	4.0
United Kingdom	34.5	9.6
Denmark	34.5	9.6
Hungary	34.5	10.0

- Why do you think does such high level of inequality persist even where the countries are democratic and government works in the interest of all people?

- If a party is repeatedly voted to power, does it mean that people really want it to come to power, or could it mean that there is no alternative or that people are not allowed to vote for any alternative? Answer on the basis of the following three case studies:
 - a. Since its independence in 1930, Mexico holds elections after every six years to elect its President. The country has never been under a military or dictator's rule. But, until 2000, every election was won by a party called PRI (Institutional Revolutionary Party). Opposition parties did contest elections, but never managed to win. The PRI was known to use many unfair means to win elections. Teachers of government schools used to force parents to vote for the PRI.
 - b. Zimbabwe attained independence from White minority rule in 1980. Since then, the country has been ruled by ZANU-PF (Zimbabwe African National Union - Patriotic Front), the party that led the freedom struggle. Its leader, Robert Mugabe, has been ruling the country since independence. Elections have been held regularly and are always won by ZANU-PF. President Mugabe is popular but also uses unfair practices in elections. His government has changed the Constitution several times to increase the powers of the President and make him less accountable. Opposition party workers are harassed and their meetings disrupted. There is a law that limits the right to criticise the President. Television and radio are controlled by the government and give only the ruling party's version.
 - c. In China, elections are regularly held at intervals of five years for electing the country's parliament, called Quanguo Renmin Daibiao Dahui (National People's Congress). The National People's Congress has the power to appoint the President of the country. It has nearly 3,000 members elected from all over China. Some members are elected by the army. Before contesting elections, a candidate needs the approval of the Chinese Communist Party. Only those who are members of the Chinese Communist Party or eight smaller parties allied to it were allowed to contest elections held in 2002-03. The government is always formed by the Communist Party.

Democracy requires free and fair elections: If people of a country have to really choose the best persons or parties to represent them in the government, then it is very important that free and fair elections take place. That is elections in which any party or individual can compete and no party has any special advantage. In many countries like USSR, Myanmar or Libya, only one or two parties were allowed to compete. As such, people had no choice but to vote for them. Even in other countries, parties in power use government machinery to persuade or force people to vote for them. They also manipulate the election process in such a way as to reject the candidature of opposition candidates, or remove the names of supporters of the opposition from electoral rolls. Holding elections of any kind is not sufficient. The elections must offer a real choice between political alternatives. And it should be possible for people to use this choice to remove the existing rulers if they wish to. If we wish to assess a democracy, it is important to look at the elections. But it is equally important to look before and after the elections.

There should be sufficient room for normal political activity, including political opposition, in the period before elections. This requires that the state should respect civil liberties of the citizens. So, a democracy must be based on a free and fair election.

Democracy requires respect for law and minority opinion:

While democracy implies a popularly elected government, it does not mean rule of popular leaders who do what their supporters want them to do. All democratic governments need to abide by laws and allow independent functioning of the judiciary and the executive officers as laid down in the law. Democracies also need to safeguard the interests of those who hold opinion contrary to the majority of the people. Their right to hold those views, propagate them and persuade people to accept them have to be respected even if the majority doesn't agree with them. The biggest challenge before democracy is to deal with people who hold opinions against democracy itself – those who think that democracy has to be replaced by some kind of dictatorship; those who believe that power should belong only to a particular class of people of a particular religion or race. Should they be allowed to propagate their views? Both these aspects give us another feature of democracy: a democratic government rules within limits set by constitutional law and citizens' rights.

Some questions on elections and democracy

Let us take the example of an election in India. Of all the residents in a region, let us assume that 1000 have a right to vote. In any typical election about 60% people go to cast their votes. Thus, we have 600 people voting in an election. Let us assume that there are ten candidates in the election and of these, the winning candidate gets about 250 votes, the second candidate gets 200 votes and the other candidates get about 150 votes. We declare the one with 250 votes the winner. Does he or she really represent the views and interests of the residents of the locality? Actually, he or she only represents one fourth of the voters. Is this a fair democratic arrangement? Can there be better ways of representing the people in decision making bodies?

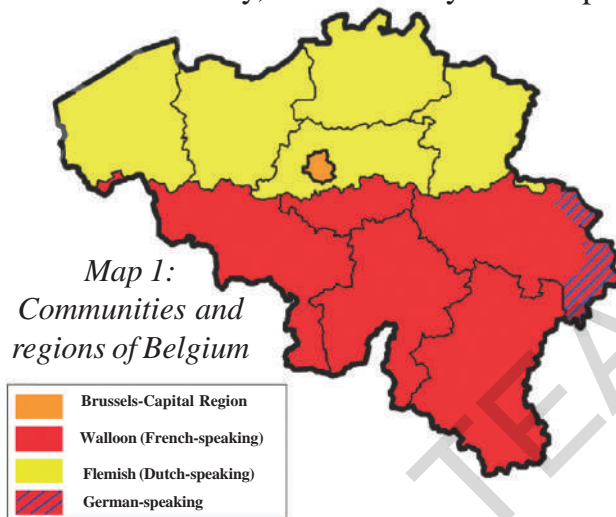
Democracy – Majoritarian Vs Inclusive

Often democracy is taken to mean the rule of the majority. In any country, there will be people of diverse views and cultures. So, differences of opinion are bound to arise. What is the democratic way to settle such differences? We often use the method of deciding by majority – that is, if voting is done, the view point that gets maximum support will be accepted by all. While this is useful in many simple situations, it can be very divisive in complex situations which involve whole communities or classes of people. A simple majoritarian approach may lead to alienation of minority communities. In such situations, it may be more useful to take an inclusive approach which accommodates the needs of both the majority and the minority people. Let us look at two important examples in this regard.

Belgium and Sri Lanka

Belgium is a small country in Europe. Of the country's total population, 59 per cent lives in the Flemish region and speaks Dutch language. Another 40 per cent people live in the Wallonia region and speak French. Remaining one per cent of the Belgians speak German. In the capital city Brussels, 80 per cent people speak French while 20 per cent are Dutch-speaking.

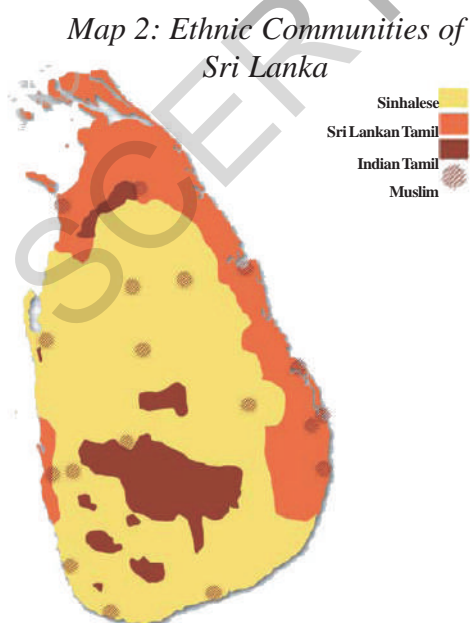
The minority French-speaking community was relatively rich and powerful. This was resented by the Dutch speaking community. This led to tensions between the Dutch-speaking and French-speaking communities during the 1950s and 1960s. The tension between the two communities was more acute in Brussels. Brussels presented a special problem: the Dutch-speaking people constituted a majority in the country, but a minority in the capital.



Sri Lanka is an island nation, to the south of India. Sri Lanka too has a diverse population. The major social groups are the Sinhala-speakers (74 per cent) and the Tamil-speakers (18 per cent). Most of the Sinhala-speaking people are Buddhist, while most of the Tamils are Hindus or Muslims.

Should the majority communities views prevail in these two countries? Now, let us look at what happened in both of these countries.

Majoritarianism in Sri Lanka



In Sri Lanka, post its independence in 1948, the leaders of the Sinhala community sought to secure dominance over government by virtue of their majority. As a result, the democratically elected government adopted a series of majoritarian measures to establish Sinhala supremacy.

Sinhala was made the only official language, disregarding Tamil. The governments followed preferential policies that favoured Sinhala applicants for jobs. A new constitution stipulated that the state shall protect and foster Buddhism. All these government measures, coming one after the other, gradually increased the feeling of alienation among the Sri Lankan Tamils. As a result, the relations

between the Sinhala and Tamil communities strained over time. The Sri Lankan Tamils launched parties and struggles for equal status. Autonomy to provinces populated by the Tamils was repeatedly denied. By 1980s, several political organisations were formed demanding an independent Tamil Eelam (state) in northern and eastern parts of Sri Lanka.

The distrust between the two communities turned into widespread conflict. It soon turned into a civil war as Liberation Tigers of Tamil Eelam (LTTE), an extremist organisation, established independent rule over some provinces inhabited by Tamils. In the final war, the Sri Lankan army defeated the LTTE. It also established a brutal control over those provinces killing and uprooting thousands of Tamil People. Many families were forced to leave the country as refugees and many more lost their livelihoods. Prior to the civil war, Sri Lanka had an excellent record of economic development, education and health. But the civil war has caused a terrible setback to the social, cultural and economic life of the country.

Accommodation in Belgium

The Belgian leaders took a different path. They recognised the existence of regional differences and cultural diversities. Between 1970 and 1993, they amended their constitution four times so as to work out an arrangement that would enable everyone to live together within the same country. The arrangement they worked out is different from any other country and is very innovative. Here are some of the elements of the Belgian model:

- Constitution prescribes that the number of Dutch and French-speaking ministers shall be equal in the central government. Some special laws require the support of majority of members from each linguistic group. Thus, no single community can make decisions unilaterally.
- Many powers of the central government have been given to state governments of the two regions of the country. The state governments are not subordinate to the Central Government.
- Brussels has a separate government in which both the communities have equal representation. The French-speaking people accepted equal representation in Brussels because the Dutch-speaking community has accepted equal representation in the Central Government.

Apart from the Central and the State Government, there is a third kind of government. This 'community government' is elected by people belonging to one language community – Dutch, French and German-speaking – no matter where they live. This government has the power regarding cultural, educational and language-related issues.

You might find the Belgian model very complicated. But these arrangements have worked well so far. They helped to avoid civil strife between the two major communities and a possible division of the country on linguistic lines. When many countries of Europe came together to form the European Union, Brussels was chosen as its headquarters. This was a great honour for Belgium because of the faith placed in it by the European community and an acknowledgment of Belgium's ability for fair play and justice.

What do we learn from these two stories of Belgium and Sri Lanka? Both are democracies. Yet, they dealt with the question of power sharing differently. In Belgium, the leaders have realised that the unity of the country is possible only by respecting the feelings and interests of different communities and regions. Such a realisation resulted in mutually acceptable arrangements for sharing power. Sri Lanka shows us a contrasting example. It shows us that if a majority community wants to force its dominance over others and refuses to share power, it can undermine the unity of the country and force the country back several hundred years with internal conflicts and civil wars.

Dignity and freedom of the citizens

Democracy stands much superior to any other form of government in promoting dignity and freedom of the individual. Every individual wants to receive respect from fellow beings. Often conflicts arise among individuals because some feel that they are not treated with due respect. The passion for respect and freedom are the basis of democracy. Democracies throughout the world have recognised this, at least in principle. This has been achieved in various degrees in various democracies. For societies which have been built over ago on the basis of subordination and domination, it is not a simple matter to recognise that all individuals are equal.

Take the case of dignity of women. Most societies across the world were historically male dominated societies. Long struggles by women have created some sensitivity today that respect to and equal treatment of women are necessary ingredients of a democratic society. That does not mean that women are actually always treated with respect. But once the principle is recognised, it becomes easier for women to wage a struggle against what is now unacceptable legally and morally. In a non-democratic set up, this unacceptability would not have legal basis because the principle of individual freedom and dignity would not have the legal and moral force there. The same is true of caste inequalities. Democracy in India has strengthened the claims of the disadvantaged and discriminated castes for equal status and equal opportunity. However, there are instances of caste-based inequalities and atrocities even now, but these lack the moral and legal foundations. Perhaps it is this recognition that makes ordinary citizens value their democratic rights.

Expectations from democracy also function as the criteria for judging any democratic country. What is most distinctive about democracy is that its examination never gets over. As democracy passes one test, it produces another test. As people get some benefits of democracy, they ask for more and want to make democracy even better. That is why, when we ask people about the way democracy functions, they always come up with more expectations and many complaints. The fact that people are complaining is itself a testimony to the success of democracy: it shows that people have developed awareness and the ability to expect and to look critically at power holders and the high and the mighty. A public expression of dissatisfaction with democracy shows the success of the democratic project: it transforms people from the status of a subject into that of a citizen. Most individuals today believe that their vote makes a difference to the way the government is run and to their own self-interest.

- Discuss the solutions given in both the countries to accommodate social, religious and linguistic diversity in them.

Keywords

1. Union of Soviet Socialist Republic or USSR
2. Public discussions
3. Civil liberties
4. Social and economic equality
5. Internal conflicts

Improve your learning

1. How does democracy produce an accountable, responsive and legitimate government?
2. What are the conditions under which democracies accommodate social diversity?
3. Give arguments to support or oppose the following assertions:
 - A. Industrialised countries can afford democracy but poor countries need dictatorship to become rich.
 - B. Democracy can't reduce inequality of income between different citizens.
 - C. Government in poor countries should spend less on poverty reduction, health, education and spend more on industries and infrastructure.
 - D. In democracy, all citizens have one vote, which means that there is absence of any domination and conflict.
4. In the context of assessing democracy, which among the following is odd one out? Democracies need to ensure:

A. free and fair elections	B. dignity of the individual
C. majority rule	D. equal treatment before law
5. Studies on political and social inequalities in democracy show that :

A. democracy and development go together.	B. inequalities exist in democracies.
C. inequalities do not exist under dictatorship.	D. dictatorship is better than democracy.



6. Here is some information about six countries. Based on this information, how would you classify each of these countries? Write 'democratic', 'undemocratic' or 'not sure' against each of these.
- Country A:** People who do not accept the country's official religion do not have a right to vote
- Country B:** The same party has been winning elections for the last twenty years
- Country C:** Ruling party has lost in the last elections
- Country D:** The parliament cannot pass a law about the army without the consent of the Chief of Army
- Country E:** The parliament cannot pass a law reducing the powers of the judiciary
- Country F:** All the major economic decisions about the country are taken by officials of the central bank which the ministers cannot change.
7. Each of these statements contains a democratic and an undemocratic element. Write out the two separately for each statement.
- A minister said that some laws have to be passed by the parliament in order to conform to the regulations decided by the World Trade Organisation
 - The Election Commission ordered re-polling in a constituency where large scale rigging was reported
 - Women's representation in the parliament has never reached 10 per cent. This led women's organisations to demand one-third seats for women.
8. Write a response to the following arguments against democracy:
- Army is the most disciplined and corruption-free organisation in the country. Therefore army should rule the country.
 - Rule of the majority means the rule of ignorant people. What we need is the rule of the wise, even if they are in small numbers.
 - If we want religious leaders to guide us in spiritual matters, why not invite them to guide us in politics as well. The country should be ruled by religious leaders.
9. Locate the following countries in the world map.
1. Srilanka 2. Belgium 3. Russia 4. America (USA)
10. Read the first two paragraphs under the subheading 'Dignity and freedom of the citizens' and answer the following question.
Write about the dignity and freedom of the citizens in a democratic country in your own words.
11. What are the reasons for the people to fight for democracy?
12. Give some examples which prove that democracy is practiced in our schools.

Project

Conduct elections in your class to elect class representative with the help of your teacher.

Human Rights and Fundamental Rights



We came across various struggles of people to achieve equality with others in the previous chapter. Yet even after independence, different forms of discrimination have not completely vanished. The makers of the Indian Constitution were aware that it is not easy to wipe out all forms of discrimination. So they developed a Constitution which would allow laws to emerge to meet the varying needs and goals of the society. The Constitution envisaged a society that is based on certain principles listed in the Preamble. Any law which violates the Preamble will be struck down.

- Write a few important features of Preamble you studied last year.

What are the Rights?

Rights are reasonable claims of persons. These claims are protected by law. All of us would like to live happily, without being made to feel inferior. Similarly, we have the responsibility to allow others to enjoy their rights as well. Your rights come with the responsibility to protect and respect the rights of other persons as well.

The concept of equal rights has been a changing one. We have seen elsewhere that not everyone was treated equally all the time. Black people were traded as slaves, women were not given the right to property and so on. But today we would consider these as unjust and a violation of that person's rights.

Rights also become significant in the context of democratic systems. Democratic systems strive to persevere equal ground for all. They allow people to express their opinion and make choices, including the choice of being represented by people they believe in. This choice is called a Vote.

Democracy safeguards not just the majority but also the minorities. Democracies place all people, whether majority or the minority on the same plane. The Indian Constitution ensures that each person's rights, irrespective of caste, race, gender, religion, and creed, are protected. However, there are some rights which are so fundamental to personhood that they have been given statutory and guaranteed in the Constitution. They are known as Fundamental Rights.

These rights are so important that they are also expressed by many of the democratic nations the world over and have been codified by the United Nations Organisation (UNO) and find a place in the Universal Declaration of Human Rights (UDHR). The UDHR is a document to which many of the modern states are signatory too, implying that they will uphold all the basic human rights mentioned there.

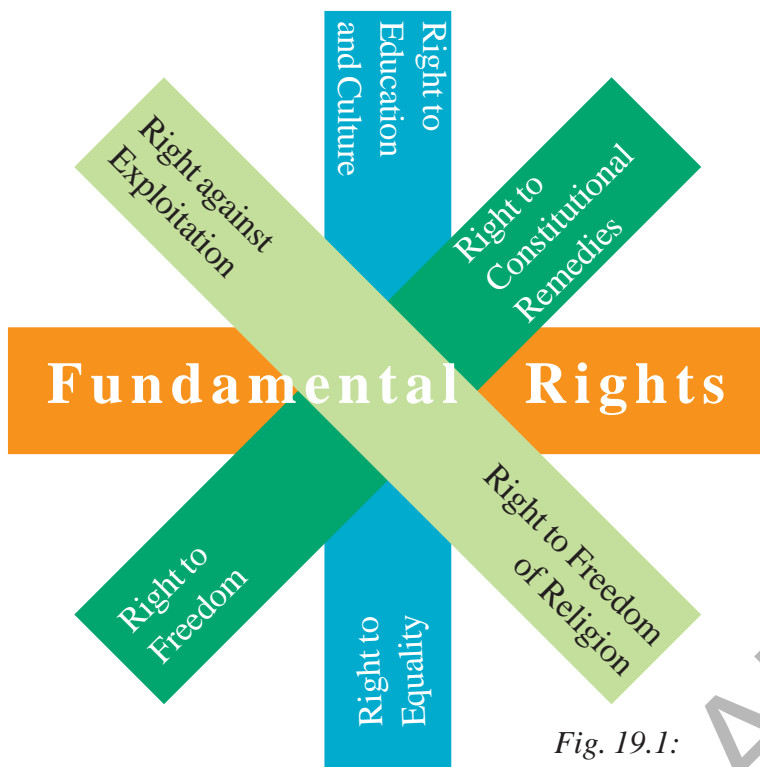


Fig. 19.1:
Fundamental Rights

Fundamental Rights in Indian Constitution

Fundamental Rights find a place in Part 3 of the Constitution of India. These rights give people a protection from oppressive governments and place a duty on the government to uphold them. They are so important that if they are violated by the government, any person has a right to approach the High Court or the Supreme Court directly without going to the lower courts for relief. Writ is an authority given to the court to issue directions to the

government to protect and enforce any constitutional right. It is an inherent power given to the court. The court can *sue motu* (on its own motion) take cognizance of the violation of a fundamental right.

Right to Equality

The Indian Constitution guarantees the Right to Equality. It includes most notably the following rights:

1. Equal Protection of Law

The Constitution says that the government “shall not deny to any person equality before the law or equal protection of the laws.” This means that the laws apply in the same manner to all, regardless of a person’s income, status, background etc. This is called the rule of law.

The Right to equality, guarantees that all citizens shall be equally protected by the laws of the country, whether she be an ordinary citizen, a minister, government official or a small farmer. Everyone is under the same law. It means that the State cannot discriminate against and cannot mete out preferential treatment to any of the Indian citizens on the basis of their caste, creed, colour, sex, gender, religion, office or place of birth.

Even a Prime Minister may be trailed in a court of law and will have to attend the courts just as an ordinary person would if there is an accusation of a crime. In

the same way, if some official is found guilty of a crime then he or she should be given the same punishment as applies to any other person. No one can claim special treatment because of his or her class or background.

In the modern State, the executive arm of the Government is armed with vast powers, in the matter of enforcing bye-laws, rules and regulations as well as in the performance of a number of other functions. The equality clause prevents such power from being exercised in a discriminatory manner.

2. Social Equality

Another feature of this right is Social Equality. The State shall not discriminate against any citizen on grounds of religion, race, caste, sex, and place of birth or any of them. Further, on the basis of any of these grounds, a citizen cannot be denied access to shops, public restaurants or the use of wells, tanks, roads and places of public resort maintained wholly or partly out of State funds or those which are dedicated to the use of the general public. The significance of the Article is that it is a guarantee against every form of discrimination by the State on the basis of religion, race, caste or sex.

This right has, however, two notable exceptions in its application. The first of these permits the State to make special provisions for the benefit of women and children. The second allows the State to make any special provisions for the advancement of any socially and educationally backward classes of citizens or for the Schedule Castes and the Schedule Tribes.

The special treatment meted out to women and children is in the largest and the long range interest of the community itself. It also recognises the social customs and background of the country as a whole, and the historical disempowerment and oppression of these people groups. In an attempt to uphold this right, laws governing civil matters like property laws today have been amended to include women as coparceners in joint family property

Thus, the Constitution permits the discrimination in reverse by reserving seats in educational institutions and by reserving posts or appointments in public service. The extent of such reservation assumes great importance for the citizen, for the general public and for the State. For example, medical colleges must admit a certain percentage of students who belong to OBC/SC/ST.

3. Equality of Opportunity

The Constitution guarantees equality of opportunity for all citizens in matters relating to employment or appointment to any office under the state. No citizen shall, on grounds of religion, race, caste, sex, descent, place of birth, resident, be ineligible for or discriminated against in respect of employment or office under the State.

However, a notable exception that lies in this right, is that the State can make provisions for the reservation of posts in favour of any backward class of citizens, if the state feels it is not adequately represented in the services under the state. That is, the state may also reserve posts for members of Backward Classes, Scheduled Castes or Scheduled Tribes which are not adequately represented in the services under the State to empower and lift the weaker sections of the society.

4. Abolition of Untouchability

The Constitution in no uncertain terms abolishes Untouchability and its practice in any form. Further, the practice of untouchability is an offence and anyone doing so is punishable by law even attracting a jail term. The Protection of Civil Rights Act provides penalties for preventing a person from entering a place of worship or from taking water from a tank or well.

5. Abolition of Title

In another move to remove arbitrary and unequal classification of the aristocratic class and the bourgeoisie, the Constitution prohibits the State from conferring any titles. The British government had created an aristocratic class known as Rao Bahadurs and Khan Bahadurs in India – these titles were also abolished. Citizens of India cannot accept titles from a foreign State. However, military and academic distinctions can be conferred on the citizens of India. The awards like the Bharat Ratna, the Paramveer Chakra and the Padma Vibhushan cannot be used by the recipient as a title and do not, accordingly, come within the constitutional prohibition.

- What kinds of rights to equality does the Constitution ensure? Give examples.
- Discuss whether you think each of the following is a violation of the Fundamental Right to Equality. Also discuss whether you think it is constitutionally right or wrong to do such things.
 - While filling water from a public source, some people object if the vessel of another person touches their pots.
 - Some communities are never provided a place to live within the village but always outside.
 - In some schools, certain children are not allowed to serve water because they belong to a particular caste.
 - Members of some communities do not go to many places of worship because they fear that they will be ill treated or beaten up.
- What would happen if the Fundamental Right to Equality was not in the Constitution? Discuss.

Right to Freedom

The Constitution of India also guarantees certain individual rights that were considered vital by the framers of the constitution. The Right to Freedom guarantees the following six freedoms:

1. Freedom of speech and expression: This enables an individual to participate in public activities. Citizens are free to express their views in many ways such as through meetings, publications, plays, paintings etc. However, this right is a restrictive right and can be curtailed on the grounds of public order, security of State, morality and public good. Hence, movies are subject to review by the Censor Board in the interests of public good, decency and morality.

Again there are various laws regulating free speech. Although we have the right to free speech, it is a right which cannot be used without any thought. Our free speech must not be defamatory, immoral or illegal. Again, there are other laws forbidding people to incite others/ tell others to rebel against the government.

2. Freedom to assemble peacefully without arms: On this, the State can impose reasonable restrictions in the interest of public order and the sovereignty and integrity of India.

People have the right to come together or assemble for many reasons such as to hold meetings to protect their rights, to discuss their problems or business, to exchange ideas and share views etc. Everyone also has the right to carry out peaceful demonstrations, public meetings and rallies.

However, there are some restrictions on this right – for example, any assembly should be conducted in a peaceful manner without the display or use of arms. Similarly, whenever a demonstration or a rally is organised, prior permission from the administration needs to be taken.



Fig. 19.2: A rally

3. Freedom to form associations or unions: The State can impose reasonable restrictions on this freedom in the interest of public order, morality and the sovereignty and integrity of India.

People are free to form many kinds of associations - cultural groups, business associations, trade unions. For example, you may have heard that many factories have workers' unions. These unions hold meetings to discuss their problems. They make demands to the officers of the factory. Thus, the union protects the rights of the workers.

- What associations are there in your area?
- Why are workers' unions formed? What problems do they face?

For example, restrictions may be imposed on movement and traveling in order so as to control epidemics. Again, in some border areas, the government may think that free movement is posing problems for the security of the country and so impose restrictions on it.

5. Freedom to reside and settle in any part of the territory of India: Which is also subject to reasonable restrictions by the State in the interest of the general

- Why do people want to move and settle in various parts of the country?
- What is the responsibility of the government towards workers who are able to find some work in the city but don't have a proper place to live?

4. Freedom to move freely: People have freedom to move freely throughout the territory of India though reasonable restrictions can be imposed on this right in the interest of the general public. For example, restrictions may be imposed on movement and traveling in order so as to control epidemics. Again, in some border areas, the government may think that free movement is posing problems for the security of the country and so impose restrictions on it.

public or for the protection of the Scheduled Tribes. Certain safeguards are envisaged here to protect indigenous and tribal people from exploitation and coercion.

6. Freedom to practise any profession or to carry on any occupation, trade or business: On which the State may impose reasonable restrictions in the interest of the general public. Thus, there is no right to carry on a business which is dangerous or immoral. Also, professional or technical qualifications may be prescribed for practising any profession or carrying on any trade.

The constitution also imposes restrictions on these rights. The government restricts these six freedoms in the interest of the independence, sovereignty and integrity of India. In the interest of morality and public order, the government can also impose restrictions. The six freedoms are also automatically suspended or have restrictions imposed on them during a state of emergency. However, the right to life and personal liberty cannot be suspended.

■ Discuss the implications of the statement that although the six freedoms may be suspended, the right to life and personal liberty may not be suspended.

Right to Life:

The Indian Constitution also guarantees the Right to Life and Personal Liberty. This includes:

■ Protection with respect to conviction for offenses is guaranteed in the right to life and personal liberty. No one can be awarded punishment which is more than what the law of the land prescribes at that time.

■ No citizen can be denied his life and liberty except by law. This means that a person's life and personal liberty can only be disputed if that person has committed a crime. However, the right to life does not include the right to die and hence, suicide or an attempt thereof, is an offense.

■ In 2002, the right to primary education became a part of the right to life. Here, the governments are responsible for providing free and compulsory education to all children from the age of 6 to 14 years. This makes it necessary for the government to arrange for schools and for parents to ensure that their children attend school regularly. This right has been added because people feel that all children should have the opportunity to study, learn about the world around them, acquire skills to express themselves and make creative contributions to society, and have more opportunities for their future.

■ Rights of a person arrested under ordinary circumstances is laid down in the right to life and personal liberty. No one can be arrested without being told the grounds for his arrest. If arrested, the person has the right to defend himself by a lawyer of his choice.

Right against Exploitation

Under this Right, all forms of “forced labour are prohibited”.

You read in some of the history chapters that some people were forced to do *vetti* to work without any wages. If any landlord or contractor today forces a person to work without any wages or at very low wages, it would be a violation of the fundamental right against exploitation. Such a person can file a case in the court. Similarly, if a person is forced to work as a bonded labourer it would also be a violation.

“Prohibition of employment of children in factories”

The Constitution states, “no child below the age of 14 shall be employed to work in any factory or mines or engaged in any other hazardous employment.” Accordingly, laws have been made that prohibit children from making matches, crackers, beedis and carpets, or doing printing and dyeing etc.

- Conduct a debate on the following issues in the context of regulation on freedom of speech:

1. A book is written with an intention to hurt the feeling of a specific caste group.
2. Every film has to get approval from the Censor Board.
3. The court orders that no one can use public microphones during festivals and prayers beyond 11:00 p.m.

- What do you remember about the difference between the role of the police and that of the court (VIII Class)?

- What are the different types of schools you see in your area? Why do you think are there such different types of schools?

- Do you think this right has been made available to children in the villages and cities in your area?

- With the help of your teacher, find out the minimum wages in your state.

Right to Freedom of Religion

All individuals are free to follow their conscience and practise any religion. No one can be prohibited from following his or her religious practices as an individual. This also means that a person can decide to change his or her religion.



Fig. 19.3: Places of worship and people of different religions

However, this right, also preserves the spirit of secularism in India. For example, one cannot commit a crime like infanticide in the name of religion. Similarly, the practice of *Sati* cannot be committed in the name of religious freedom.

According to the Constitution, the government does not have any religion. It should treat all religions as equal as mentioned earlier. This is what the Preamble means when it says that India is secular.

- How do the following practices violate the fundamental rights?
 - a) untouchability
 - b) triple talak
 - c) separate enclosure for the upper castes and dalits in the places of worship
- Can anyone not follow any religion if he/ she wishes?

Right to Education and Culture

The Constitution says, “All minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.”

Minority groups are usually thought of in terms of language and religion. Whether or not someone is a minority also depends on where they live. For example, Telugu speaking people form a majority in Telangana & Andhra Pradesh but they would be a minority in West Bengal. Sikhs constitute a majority in Punjab. But they are a minority in Andhra Pradesh, Rajasthan, Haryana etc.

They have the freedom to establish and run institutions in order to protect their culture and language. For example, if Kannada speaking people wish to run a Kannada medium school in Telangana in order to preserve their culture and language they cannot be prevented from doing so.

The government also has to recognise and provide grants to such institutions if they fulfill other essential conditions. In the above example, if such a school is affiliated with the Telangana State Board and fulfils the Board’s conditions, then it can receive grants from the state government just like any other aided private school.

Right to Constitutional Remedies

As mentioned earlier, these rights are so important that a violation of these rights by the State gives the people the Fundamental Right to approach the High Courts and Supreme Court. When such rights are violated, they can be restored by the courts by giving specific directions or orders. It is the responsibility of the government to protect the people against any violation of their Fundamental Rights. A case can be filed against the government if it fails to do so.

Many times, the poorest and marginalised sections of society cannot afford to approach the court even when their rights are violated. To make these rights meaningful to everybody, the courts under the exercise of judicial review have encouraged the people to file Public Interest Litigation or PIL. That is, if the rights of a group of people are being denied, each affected person does not have to file a separate case. Any person

(or organisation) can file a case against the government on behalf of this group of people. This kind of case is called a Public Interest Litigation. It has now expanded to include many other kinds of public interest litigations including environmental issues, transparency and probity of the governments, the treatment of prisoners etc.

An Example of a Public Interest Litigation

Suppose, the government decides to construct a dam on a river and there are around 50,000 people whose fields would be flooded if the dam was built. They would lose their land and livelihood. Their way of life would be seriously affected. This is a violation of their fundamental rights to freedom of life, freedom to settle in any part of the country and freedom to pursue any occupation of their liking. In such a situation, a case can be filed in the Supreme Court to protect the Fundamental Rights of these people. One case can be filed on behalf of all 50,000 people.

Scope of Fundamental Rights

The Fundamental Rights provided in Constitution have been amended from time to time. Moreover, many new rights have been included into it like Right to Education. Rights may be modified through the parliament. The supreme court could also make judgements that would expand the meaning of a particular right. For instance, right to food has thus been expanded into the context of Right to Life.

Other Institutions and Rights

Rights like the idea of democracy have captured the attention of people across the globe. Rights are often traced to the Magna Carta of England and French Revolution where a declaration of rights of man and of citizens was announced. After the world wars, United Nations was established with an objective to ensure that there are no more major wars across the globe. United Nations assigned this

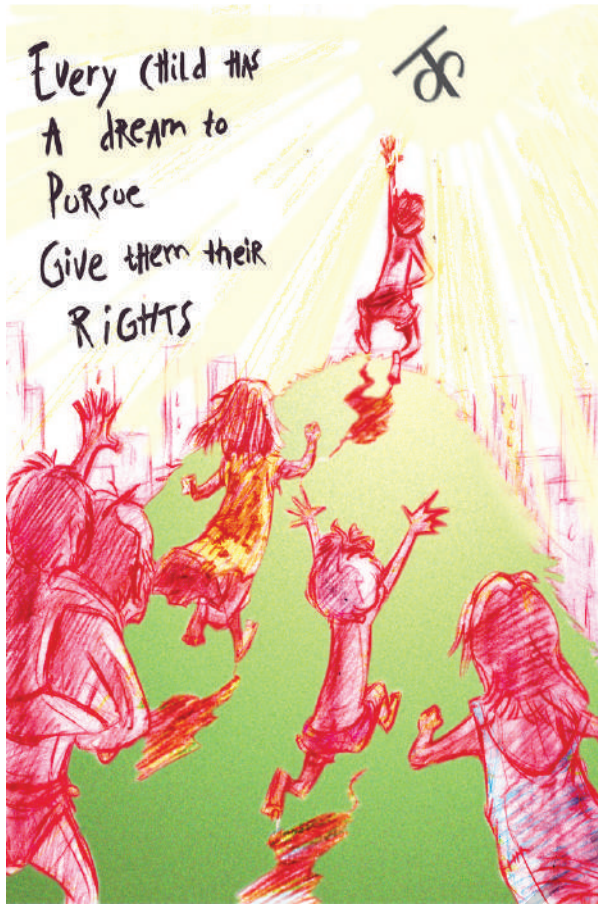


Fig. 19.4: A poster on Child Rights

under this law called the National Human Rights Commission (NHRC). The commission has been given powers of a civil court extendable to the entire country. The Government has also established other institutions to monitor and inquire into situations in which these rights are violated. Thus, we have different institutions such as the National Commission for Women, National Commission for Protection of Child Rights, National Minority Commission and State Human Rights Commissions.



Fig. 19.5: Logo of Human Rights (United Nations)

task to a group of people from 9 different countries around the world who drafted a list of 30 articles. This became the Universal Declaration of Human Rights which was passed by the UN General Assembly in 1948. The member nations of the UN are all signatories to this and thus under an obligation to uphold these rights. While these do not have the force of the law, violation of these rights will be considered unacceptable by the international community and in many cases, invite sanctions by other countries.

Human Rights Commission

The United Nations has been working to protect the basic human rights of people and in this effort, they have encouraged their member nations to do the same. In 1993, the Government of India passed an act of legislature to protect human rights. A commission for human rights was set up under this law called the National Human Rights Commission (NHRC). The commission has been given powers of a civil court extendable to the entire country. The Government has also established other institutions to monitor and inquire into situations in which these rights are violated. Thus, we have different institutions such as the National Commission for Women, National Commission for Protection of Child Rights, National Minority Commission and State Human Rights Commissions.

NHRC is vested with the authority to make an inquiry, *suo motu* (on its own initiative), or on a petition presented to it by a victim or any person on his / her behalf. It intervenes in any proceeding involving any allegation of violation of human rights pending before a court with the approval of such court. It also makes and reviews the safeguards provided by or under the constitution for the protection of human rights and recommends measures for their effective implementation.

At the International level, the UNO has instituted a committee for Human Rights which looks into the violations of the international pacts.

Violation of Human Rights

Police excesses, arbitrary arrests, denial of right to information and corruption, sexual cruelty and rape of women, delay in investigation of crimes, female infanticide, kidnapping for ransom, deplorable conditions of women, children and downtrodden people, discriminations against women in the family, cruelty to domestic servants are certain violations of human rights. These violations continue unchecked because people are not aware of their human rights. Protection of human rights is the responsibility of the state. Complaints about violations can be made to national or state commissions.

- Is there a State Human Rights Commission in our state? Find out about its activities.
- Think of some instances of violations of Human Rights.
- Write a petition to the NHRC if you know about any instances of human rights violation in your area.

Fundamental Duties

Just as we have rights, we have some responsibilities too. These responsibilities are towards the other people living around us.

“It shall be the duty of every citizen of India

- a) to abide by the Constitution and not insult either the National Anthem or the National Flag.
- b) to cherish and follow the noble ideals which inspired our national struggle for freedom.
- c) to maintain the unity and sovereignty of India.
- d) to defend the country.
- e) to bring harmony and peace amongst people of different languages and religions and to refrain from insulting the dignity of women.
- f) to prevent and improve the natural environment.
- g) to value and preserve the rich heritage of our composite culture.
- h) to develop the scientific temper, humanism and the spirit of inquiry and reform.
- i) to safeguard public property.
- j) to strive towards excellence in all spheres.
- k) to educate our children.”

Keywords

1. Fundamental rights
2. Human Rights
3. Litigation
4. Titles
5. Arbitrary

Improve your learning



1. Which of the following is not an instance of an exercise of a fundamental right?
 - a. Workers from Bihar go to Punjab to work on the farms
 - b. Religious minority set up a chain of schools
 - c. Men and women government employees get the same salary
 - d. Parents' property is inherited by their children
2. Which of the following freedoms is not available to an Indian citizen?
 - a. Freedom to criticise the government
 - b. Freedom to participate in armed revolution
 - c. Freedom to start a movement to change the government
 - d. Freedom to oppose the central values of the Constitution
3. Which of these statements about the relationship between democracy and rights is more valid? Give reasons for your preference.
 - a. Every country that is a democracy gives rights to its citizens.
 - b. Every country that gives rights to its citizens is a democracy
 - c. Giving rights is good, but it is not necessary for a democracy
4. Are these restrictions on the right to freedom justified? Give reasons for your answer.
 - a. Indian citizens need permission to visit some border areas of the country for reasons of security
 - b. Outsiders are not allowed to buy property in some areas to protect the interest of the local population
 - c. The government bans the publication of a book that can go against the ruling party in the next elections
5. Look through this chapter and the previous one and make a list of the six Fundamental Rights in the Constitution.

6. Are the Fundamental Rights being violated in each of the following cases? If so, which Fundamental Right or Rights? Discuss with your classmates.
 - a. Suppose a person is kept in a police station for 4 days without being told the reasons, which law was broken?
 - b. Suppose your neighbour tries to claim some of your land as her own.
 - c. Suppose your parents do not allow you to go to school. They make you take up a job in a match factory instead because they cannot afford to feed you properly.
 - d. Suppose your brother refuses to give you the land that you have inherited from your father.
7. Suppose you are an advocate. How would you argue the case for a group of people who come to you with the following request:

“The river in our area is getting very polluted by the factories upstream. We get our drinking water from the river. People in our villages keep falling ill because of the polluted water. We have complained to the government but there has been no action from their side. This is surely a violation of our Fundamental Rights.”
8. Read the paragraph under the heading ‘Abolition of Title’ and answer the following question :

The Awards can’t be used by the recipient as a title. Why?
9. Analyse an incident you know about where the Fundamental Rights are violated.

Discussion:

We have been observing news related to suicides in Newspapers and in our surroundings. Everyone has problems. Is suicide a solution for problems? Discuss.

Project

Invite a senior advocate into your classroom and collect the following information by conducting an interview.

- violation of fundamental rights and its consequences
- violation of children’s rights
- ways to struggle for rights in democracy
- any other fundamental rights related information



Women Protection Acts

- Have you ever seen or heard about child marriages?
- Have you ever observed or heard about harassment and violence against women and girls?
- Have you ever observed the various types of domestic violence threatening women in day to day life?
- What shall we do to stop such violence caused to girls and women?

Girls and women are face teasing and violence on a regular basis worldwide. It affects their mental and physical health and most of the women can't dare to move freely. Similarly, girls hesitate to go to schools. Teasing with words, torturing, insulting are incidents commonly seen around us. We also watch and read news on T.V and in newspapers. Such incidents are an evidence of violation of child and women rights. Even though governments have made many laws to control the violence against women, most, people are not aware of them. Even victims of violence don't know where and how to get protection and help.

Girls and women should be aware of the laws meant for their protection. Then only can they protect themselves from various types of violence and abuse. Is there any network or mechanism for girls and women to express their worries and at the same time maintain and protect their secrecy? What are the various forums through which girls and women can seek protection? Let us discuss all these in this chapter.

Violation of children and women rights are still continuing world wide. For this reason women and child protection laws came into existence. These acts include 1. Prohibition of child marriage Act - 2006 2. The Immoral Trafficking (Prevention) Act - 1956, 3. The Dowry Prohibition Act - 1961, 4. Protection of children from sexual offences Act (POCSO Act) - 2012. 5 The Juvenile Justice Act - 2015. 6. Child labour (prohibition and regulation) Amendment Act - 2016. These acts protect women and children from abuse, exploitation, violence, sexual assault and harassment.

In 1989, the UNO proposed international children's charter on which 191 countries have signed. Our country is also one of them. These rights relate to every child without any discrimination. Let us look at some of the important rights.

Children Rights

1. All the people below 18 years age are all children without gender discrimination.
2. Protection from government for child rights.
3. Right to live.
4. Right to live with parents as far as possible.
5. Right to gain knowledge and get awareness about the world through media like radio, newspapers, T.V etc.
6. Right to protection from violence and harmful incidents.

7. Right to get special care to live and for development in case of disabled children.
8. Right to have good health and get medical care.
9. Right to use mother tongue, follow their religion and tradition.
10. Right to play.
11. Right to avoid the harm for children from getting education and health.
12. Right to get protection from harmful medicines also manufacturing and purchasing.
13. Right to get help when neglected and suffering.

Children as well as adults should be aware of the UNO Child Rights Charter. Government also informs people about this.

Prohibition of Child Marriage Act, 2006

According to the Child Marriage Act, a person who, if a male, has not completed 21 years of age, and if a female, has not completed 18 years of age cannot be forced to get married.

If the contract between any two people of which either one or both parties is a child, it is treated as child marriage.

If a male above 21 years contracts a child marriage he shall be punished for two years imprisonment and/ or a fine which may extend to Rs. 1 lakh. The same punishment will be given to a person who performs, conducts or directs a Child Marriage under Child Marriage Act, 2006. If the marriage is voided, the girl should be paid maintenance by the male up to the age of her 18th year or upto the time she gets married. If the male is minor, his parents should provide such maintenance. The government will take care of the children whose marriage is cancelled. The dowry and gifts are to be returned after the cancellation of the marriage.



Consequences of child marriage:

- Underage pregnancy.
- Provision for trafficking and sale of girls.
- Pushing the unmatured into family system.
- Increased abortions, premature births which results not only in infant mortality but also the death of mothers.
- Handicapped child births or dead child births.
- Mental as well as physical health problems.
- Obstacle to education
- Hurdle for physical growth (especially regarding female).
- Become child labourers for family maintenance.

The protection of children from sexual offences Act - 2012.

POCSO is an act to protect children from offences of sexual assault, sexual harassment and pornography and provides for establishment of special courts for speedy trial of such offences committed against children.

The law operates in a manner that the best and well being of the child are given importance at every stage of implementation to ensure the healthy, physical, emotional, intellectual and social development of the child.

This law makes provisions to prevent : (a) The inducement or coercion of a child to engage in any unlawful sexual activity. (b) The exploitative use of children in prostitution or other unlawful sexual practices. (c) The exploitative use of children in pornographic performances and materials.

Prevention of Child Marriage – A Case Study

Raviralla Kavitha a girl is of twelve years. Her father is Nancharaiah. They belong to Rangareddy village of Mahaboobnagar district. Kavitha was studying in class VII in an Upper Primary School. She stopped attending school because her marriage was fixed. This was informed to Mamidipudi Venkata Rangaiah Foundation. The volunteers of MVF went to her house along with the members of Child Marriages Prevention Samithi and discussed about the child marriage in the presence of village elders.

Later on, the MVF volunteers went to the local priest. He repeated that when the Kavitha's parents came to him with the request of fixing the date, he asked for the Date of Birth certificate or ration card. They did not show any of them and did not come back to him. The volunteers came to know in the enquiry that the bridegroom, Damerla China Satyam, age 23, S/o Ramaiah had not even completed primary education.

After two days, when the MVF volunteers went to Kavitha's house, they were busy with marriage arrangements. They tried to persuade them not to perform her marriage at such an early age when she is meant to study and still a minor. Kavitha's father said, "you say many things but we have another daughter. How can I arrange the marriages?". As they were not convinced, the volunteers went to Thasildar, Sub Inspector of Police, CDPO and informed them about the same. They enquired about this in the presence of villagers but the parents responded rudely, "Who are you to stop our daughter's marriage?" A few people belonging to the bridegroom's side also came there and said, "we have finished all the arrangements. Why do you stop now?" "S.I. explained to them," "Child Marriage is an offence. Encouraging child marriage is also a crime." After counseling the parents of the bride and the bridegroom, they agreed to cancel the Child Marriage and they are now sending Kavitha to school regularly.

- Sometimes child marriages are fixed for children as young as 15 years without their consent. How do we stop such marriages? Who will help us?

Do You Know?

Seek assistance in case of any harassment and domestic violence using toll free number **Bhumika Help Line 1800 425 2908** and stop child marriages. Friends, relatives, neighbours and teachers can inform the village secretary and Tehsildar to stop child marriages.

District Collector at the district level, Revenue Divisional Officer at division level, Tahsildar or ICDS Officer at mandal level and Gram Panchayat Secretary at village level are Incharge for stopping child marriages. Anybody can complain or intimate to the above officers to stop a child marriage. Sometimes the court may initiate and file sue-motu (on its own initiative) when it has reliable information and punish the concerned.

The Immoral Trafficking (prevention) Act 1956 and amendment 2006

Girls and women are lured in the name of jobs, bright future, roles in cinema etc. and taken to towns and cities and sold for prostitution. They are also subjected to physical violence to make them obey.

Trafficking and selling of girls for prostitution or encouraging them to enter into prostitution is a punishable crime. Even if girls choose to out of their will and interest, it is still treated as a crime.

Different forms of trafficking:

- **Sexual assault**
 - a. Forced prostitution
 - b. Social and religious prostitution
 - c. Reading rustic writings and watching obscene pictures
- **Activities against the law**
 - a. The trafficking of children and involving them in the begging for money and beating them to obey is also crime, sometimes children are made physically handicapped by removing their body parts and made to beg on the streets.
 - b. Removing body parts and doing business.
 - c. Children forced to sell narcotics and drugs.
- **Labourers**
 - a. *Vetti*: Forcing children to work without making proper payments, not providing nutritious food, clothes and not treating them as human beings.
 - b. Domestic labour: Washing clothes, cleaning the houses and utensils without proper wages, entrusting work in neighbours' houses.
 - c. Agriculture Labour : Involving in the agriculture work and exploiting them for more physical work.
 - d. Construction work : Labour involved in construction of buildings, roads etc. with nominal payments and providing them with substandard food.
- **Sadistic pleasure**
 - a. Tying up the children on camels and making them run for entertainment.
 - b. Marriages and adoption without their consent.

Generally, people bear injustice and violence and never inform the concerned authority or take the help of law to be away from violence and sufferings. In such cases, the sufferers must inform to the local police station or NGO for protection and care.

Forcible prostitution is an offence. Such prostitutes are called sex workers. There are many acts for their protection. The police has no power to beat or punish

them in the name of enquiry. Along with the sex workers, the brothel house keepers are also liable to be punished with 2 to 3 years of imprisonment and penalty of up to Rs. 10,000/-. Using a house or a room or taking or giving a room for rent for the purpose of prostitution is also an offence.

If anyone is forced to participate in sexual intercourse with someone, it is also punishable under the law.

After protecting the victims, they should be presented before the Magistrate after the required medical treatment. An enquiry is to be taken up by a woman police officer or any Non Government Organisation (NGO) and action should be taken for the protection of the victim. If the victims are children, they will be sent to Balasadan. The rescued person shall be given full protection and care and respect by the concerned government. If the rescued persons are children, they may be provided accommodation in child protection home where their education, food and health shall be taken care of.

The punishment is 7 years rigorous imprisonment to life along with penalty for immoral trafficking. Without warrant, the police officer shall investigate the case and collect the necessary details to protect the trafficked children and punish the accused.

The Dowry Prohibition Act, 1961



If a person gives or takes or abets dowry, he/she shall be punishable with imprisonment for a term not be less than five years and with a fine not be less than 15 thousand rupees or the amount of the value of such dowry whichever is more.

It has been observed that after the marriage, the bride is teased, scolded, abused, beaten and sometimes killed or forced to commit suicide. All these offences are covered in this act. Parents can present offerings, articles in the marriage, but these offerings must be as per the law.

1. Enlisting the offerings
2. Offerings can't be demanded

3. The offerings that are being provided must be as per one's cultural norms and traditions. The value of offerings shall not be over and above the parents' economic status and never become a burden to the family.

- Have you ever seen or heard about women being tortured for dowry in your locality? How are they being tortured? What sort of suggestions would you give to prevent this? Who will be held responsible?

In cases of such violence, the victim herself or her father/ mother/ brother/ relatives can complain in the local police station.

The Protection of Women from Domestic Violence

Our constitution provides the right to live in a dignified manner to all the citizens. Leading a dignified life means that the women should not be abused, insulted or humiliated. Such situations can be created for women to enjoy their rights by giving proper respect to their work. Even now, equal rights are not being enjoyed by women. Activities and behaviour which damages their value and self respect start with family. Such violent acts often happen in family to suppress the women and their dignity. These incidents are against their development.

There is difference or variation in the nature and range of violence that women subjected to and it is a major challenge in the empowerment of women across the world. Domestic violence is not only pertaining to individual or family. It also has political history behind it including women's movements being carried out in the last twenty years. Certain special acts have been formulated based on protests and movements started by women. However, these acts are not being implemented their true spirit. Proper sensitivity and awareness should be created along with effective monitoring towards women's issues among the machinery of implementation such as police and other assisting agencies.

The National and International governments have taken up certain declarations and resolutions in order to stop violence against women, though violence is still there at the family and community level. The declarations also clear the actions proposed to be taken up by the governments towards development of women. The government of India is also one of the countries who accepted and became signatory to the declaration and resolved to abide by it.

- Domestic violence takes place now and then and gradually it becomes a habit pattern. More violence generates from violence. How do we stop this? Who will help?

Important Resolutions:

- "Government shall take appropriate measures to do away with the discriminations against women in the matter of marriages and family relations."
- "The men and women shall possess equal rights in the matters of family property and its management."

The Beijing declaration and programme of action focuses on the following things:

- "Violence against women is one of the major causes for the decreasing status of women in the community when compared to men. Mostly women and girls undergo the violence in the family and in home environment and these things never come out. It is very difficult to identify the domestic violence and address it."

- “The government has to take steps in the proper identification of violence, protecting the victims and punishing the culprits.”
- “Making all legal and judicial systems and mechanisms accessible to the women suffering with domestic violence. The information pertaining to protective measures and taking help of the law must be provided to everyone.”

Lakhs of women and children are hurt during domestic violence and undergo treatment but majority of them doesn't reveal it. Though domestic violence happens across all nations, races, religions and it is something confined to family affairs happening within the four walls.

Domestic Violence - Misconceptions and Realities:

Misconception: Parents punishing their children now and then is not a major issue to be considered.

Reality: Domestic Violence starts slowly and it becomes a routine if nobody opposes it. The Victims are sometimes hospitalised for treatment and even lose their life and it adversely affects their dignity and self respect.

Misconception: Addiction to drinking is the major cause for violence.

Reality: The alcoholism for domestic violence is only an assumption but the statistics reveals that 40% of the men who beats their wives are not addicted to alcoholism.

Misconception: Women shall bear the violence for the sake of children.

Reality: Violence leads to more violence. Children who grow in the violent atmosphere will become more violent in the future.

Misconception: There is no way to get out of Domestic violence.

Reality: The violence free environment is the birth right of every woman. The women protection acts and laws are available and one should seek their support.

Forms of Domestic Violence:

- Sexual abuse (watching, or making obscene films)
- Physical abuse (physical harm, beating, torturing)
- Verbal and emotional abuse (humiliation, name calling or ridicule, not speaking to them, ignoring.)
- Mental abuse (threatening to harm, stopping women's education, stopping from jobs, force to marry whom she doesn't like)
- Economic abuse (deprivation of economic or financial resources, use the women wealth, sell their property)

Whom to complain:

The victims of domestic violence should complain to the police officer or judicial authority like 1st class Metropolitan Magistrate individually/ over phone/ e-mail. This type of complaints can be filed when the domestic violence took place or taking place or will take place. If the victim is wounded, she has to be sent for medical treatment and then the report is to be sent to the police station and to the Magistrate.

Sexual Assault and Torturing

Recently, central government has appointed Justice J.S. Verma Committee asking suggestions to prevent sexual assault and abuse. Based on the suggestions, Hon. President of India issued an ordinance on 2nd February, 2013. Central Government passed. Criminal Legal Ammendment Act - 2013 (Nirbaya Act). This act implemented from 3rd April, 2013. Some important features of the ordinance are ;

- Minimum 20 years of imprisonment.
- Recruitment of women police to address the complaints from the victims.
- It is not necessary for the victim to attend before the police officers individually.
- There will be no punishment if the accused dies during struggle at the time of attack with acid on women.
- There is a scope to shoot video at the time of complaining and trial on the request of the victims.

Lok Adalat

Lok Adalat means peoples' court. All are equal before law. In the year 1976, Article 39-A of the Constitution of India contains various provisions for settlement of disputes through Lok Adalat. It is an act to constitute legal services authorities to provide free and competent legal services to the weaker sections of society. It is to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities. And to organize Lok Adalats to secure that the operation of the legal system promotes justice on a basis of equal opportunity.

In addition to the above, an Act was formulated which is called "Act of Judicial Services Authority." This is a central law. The State government and high court jointly formulated certain principles as per this Act.

Who are eligible for judicial assistance?

- Citizens who belong to scheduled castes and scheduled tribes.
- Victims of immoral human trafficking, beggars, women, children, mentally imbalanced and physically challenged.
- Victims of natural disasters, agricultural and industrial labourers and victims of Domestic Violence and Caste enmity.
- Citizens earning annual income of less than Rs. 50,000.

One should apply for this assistance at Judicial Service Authority in District Court or High Court, as the address given below.

1. Secretary

District Judicial Services Authority

Dist. Court Premises

..... Dist.

2. Member Secretary

State Judicial Services Authority

High Court Premises, Hyd. 500 066

Methods of Judicial Assistance

- Judicial advice is given free of cost by the advocate.
- After verification of the cases and if it is found necessary, the advocates may be appointed on behalf of the complainants to take up the cases in the court.
- To bear the expenditures of court and court fee.
- The xerox copies of the judgment will be given free of cost to those who sought judicial assistance.

It is necessary to have a thorough understanding and awareness for the better implementation of the acts. Then only, the purpose and provision of human rights will be fulfilled and everyone would lead a, respectable and dignified life.

Keywords

1. Dowry
2. Domestic Violence
3. Lok Adalat
4. Sexual Assault
5. Forced Prostitution

Improve your learning

1. What are the disadvantages of child marriage?
2. Why has domestic violence become a common practice? In what forms is domestic violence seen in society? Find out the reasons.
3. You have read about various problems faced by girls and women. Have you noticed any sort of problems in your village/ town? Specify them and what is to be done?
4. Many acts have been made by the government. What do you suggest for better implementation of these acts?
5. Write an essay on general problems faced by women?
6. Imagine that you are Tahsildar. How would you prevent child marriage?
7. Prepare a pamphlet to understand the problems faced by the women.
8. Read the paragraph under the title 'Sexual Assault and Torturing' of page 260 and comment on it.



Discussion:

1. Have you ever seen that the marriages are arranged for Girls below the age of 18 years and Boys below the age of 21 years ? Discuss such cases of your locality. How do they affect the Girls. Do you support Child marriages? Why/Why not? Show preventive measures.
2. What are the different ways of Domestic violence? Discuss a few incidents and cases in the classroom. In what way does the domestic violence affect the family and others. What is expected to avoid domestic violence?
3. Drinking has become an addiction today. Many people are addicted to drinking. Discuss on the family conditions of such people. How does drinking affect the children and others? If you were in such family, what would you do?

Project

What facilities does the government provide to the poor for seeking judicial justice? Consult a lawyer and get there information about this?



Human Induced Disaster

How are natural hazards natural? Have you ever tried to analyse this question? Let us take the example of the floods in Mumbai. What led to the huge loss of life and property? Is it only heavy rain which caused this massive destruction? No, there are various other reasons that led to this large scale destruction. Let us list some of them :

- a. Unplanned growth of cities
- b. Lack of proper drainage facility
- c. Increased population etc.

If we look at the causes, all of them are human induced and if we are more careful about them, many such disasters can be prevented. So, we can say that natural hazards are not always natural, because human beings play a major role in inducing them.

The disasters that are caused because of human negligence or deliberately by an individual or a group can be termed as Human-made. These disasters cost the most in terms of human suffering, loss of life and long term damage to a country's economy and productive capacity.

Let us now look at different human made disasters briefly.

Accident Related Disasters

Road, rail and air accidents are some of the disasters that take place on a day to day basis. Rapid development and expansion of road networks for better connectivity and the increase in number of motor vehicles have led to a substantial rise in levels of both passenger and freight movement. The number of road accidents and fatalities has also been growing in recent years.

In India, about eighty thousand people are killed in road accidents every year, which is thirteen percent of the total fatality all over the world. More than half of the people killed in traffic crashes are young people within the age group of 15-44 years who are often the bread winners of the family. In most of the cases, crashes occur either due to carelessness, restlessness, overspeed, violation of traffic rules, drunken driving, poor maintenance of the vehicle, bad weather conditions etc. All these add to the rising number of accidents and road fatalities. It has been estimated that in the year 2000, more than 3 percent of the Gross Domestic Product (GDP) was lost due to accidents. Hence, road safety education is as essential as any other basic skills of survival. The Road Safety Week is observed in January every year throughout the country. The theme of the Road Safety Week in 2006 was 'Road Safety and no Accident'.

Here are some dos and don'ts for you while you are walking to school or going by bus.

No matter how old you are, it is important to know the traffic rules which are made for your safety and the safety of your family.

Dos	Don'ts
Drive if you have a legal license and have attained the age of 18.	Don't be impatient on the road and don't run on the road.
Always walk on the footpath. If there is no footpath, walk on the extreme right hand side of the road.	Never cross the road at a corner/curve as the motorist, while taking the turn, will not be able to see you in time.
Cross only at Zebra crossing and at traffic signals. Wherever such facilities are not available, look for a safe place to cross and look on either side before crossing the road.	Don't try to get on a moving bus/ rickshaw as you might slip and fall.
Know the road signals and honour them.	Don't board a bus other than the one decided by the school.
Be at the bus stop 5 minutes before, the scheduled time leave home well in time. Board the bus when it has come to a halt and without rushing or pushing. Follow the queue.	Don't shout or make noises in the bus as it distracts the bus driver and diverts his attention.
Hold on to the railing of the bus if at all you have to travel standing in the moving bus.	Don't sit or stand on the footboard of the bus.
If you are riding a two wheeler, then you must wear helmets so that your head is protected.	Don't move or swing your body parts outside a moving or stationary vehicle.
When exiting the bus, be careful that clothing and book bags with straps don't get caught in the handrail or door. Move action the vehicles from the front only, not from back.	If you drop something near or under the bus, tell the bus driver. Never try to pick it up. The driver may not see you and begin to drive away.

The following people should not drive vehicles:

- Having consumed alcohol.
- Have been taking any medicine or drug that affects their responses.
- Are tired, as tiredness affects the driving skills and reaction time.
- Are sick or injured.
- Are angry or upset.

You, as a student or a volunteer, can do wonders to reduce the number of deaths by creating more awareness on road safety. In case you see a victim, you may call for 108. You can seek the help of the policemen or the local people and ask for medical help, if necessary.

Rail Accidents

Earlier, railway transportation appeared to be safe due to slower speeds, shorter trips and lower density traffic.

With the largest network of railways in the world, the number of railway accidents has increased in India. The most common type of rail accidents are derailment which takes place due to lack of proper maintenance, human error or sabotage. This causes huge losses to life and inflicts injuries and disabilities to many more. The transportation of various highly inflammable products like coal, oil etc. also leads to accidents.

The 150 year old shabby Ulta Pool bridge in Bhagalpur district of Bihar collapsed, apparently due to poor maintenance, and fell over the Howrah-Jamalpur Superfast passenger train passing under the bridge, killing at least 35 people on December 1st 2006.

We hear of such horrifying stories every now and then. Let us try to identify some safety measures that could be taken to reduce the number of such accidents.



Fig. 21.1: Rail accidents.

Dos

- At railway crossings, pay attention to the signal and the swing barrier.
- In case of unmanned crossing, get down from the vehicle and look at both the sides of the track before crossing the track.

Don'ts

- Don't get try to underneath the closed signal barriers and cross them.
- Don't stop the train on a bridge or tunnel where evacuation is not possible.
- Don't carry flammable materials on the trains.
- Don't stand or lean out of the door in a moving train.
- Don't swing parts of your body outside a moving or stationary train.
- Don't smoke in the train. If you see anyone doing so, you can request them not to do it.
- Don't walk across the railway tracks. Use the foot bridge to change platforms.
- Don't touch objects which are suspicious. Never play on the tracks or in the railroad yards. Railroad cars can move suddenly and unexpectedly.
- Never throw anything at the train. Severe injuries and even deaths have occurred from objects thrown at trains.

Air Accidents

Air India Flight 182 Kanishka was blown up mid-flight on 23 June 1985 by a bomb. The flight was in the first leg on its Montreal-London-Delhi-Bombay (Mumbai) flight route when it exploded off the coast of Ireland. The plane crashed into the Atlantic Ocean. All 307 passengers and 22 crew on board died.

Across the world, including India, air accidents have increased. Many factors



Fig. 21.2: Air Accident.

govern the safety of the passengers in the aircraft like increase in the number of aircrafts, technical problems, fire, landing and take off condition, the environment that the airline operates in (mountainous terrains or frequent storms), factors like airport security in cases of hijackings, bomb attacks etc.

Some safety measures that can be taken up are :

On boarding the aircraft there are some things that you need to remember:

- Pay attention to the flight crew safety demonstration.
- Carefully read the safety briefing card that is there in the seat pocket.
- Know where the nearest safety emergency exit is and know how to open it in case of emergency.
- Always keep your seat belt fastened when you are sitting on your seat.

If in case you are involved in an air accident, you should remember the following things:

- Stay calm. Listen to the crew members and do what they say. The cabin crew's most important job is to help you.
- Before you try to open any emergency exit yourself, look outside the window. If you see a fire outside the door, don't open it as flames may spread into the cabin. Try to use the alternate exit route.
- Remember that smoke rises up. So, try to stay down if there is smoke in the cabin. Follow the track of emergency lights embedded on the floor, they lead to an exit. Cover over your nose and mouth with a cloth.

Fire Accidents

The 2004 fire in a school in Kumbakonam, Tamilnadu sparked off debates and arguments on the safety of schools in the country. 93 innocent people were charred to death. The main causes of this fire were lack of awareness amongst children and teachers as to what to do in case of a fire, lack of preparedness, kitchen being close to the classroom etc. However, incidents like these are not new.

Such incidents lead to huge loss to life and property because of human negligence or lack of awareness.

Fire is a phenomenon of combustion manifested in intense heat and light in the form of a glow or flames. Around 30,000 precious lives are lost because of fire related incidents every year. Heat, fuel, and oxygen/ are the three



Fig. 21.3: Fire accident.

ingredients which cause a fire. By cutting the supply of any one, we can control fire.

Dos and Don'ts at the time of Fire Accidents:

- If you see smoke or flames, raise the alarm.
- Get out of the building as soon as possible. Cover yourself if you can. Use steps instead lift in case of fire. Keep the escape routes clear in the corridors.
- Find a phone and call 101. Ask for the fire brigade, and then give your address slowly and clearly to reach soon.
- If there's smoke, crawl along the floor, as the air is cleanest there. Hot air rises up. If your escape route is blocked, go into a room with a window, put things round the door to stop smoke getting in, open the outside window and call for help.
- A closed door slows down the spread of a fire. While evacuating, it is necessary that we close the doors.
- Switch off all the electrical appliances. The best thing one could do is to turn off the main switchboard.
- Check for worn or tape up cables or leads. These are dangerous and you should replace them. In case, the plug points are at a very low level, it is necessary that they are taped especially in the primary section of the school as the children might put their fingers inside which might lead to an accident.
- Wherever you are, watch out for damaged wiring in the school. In case, there are walls that soak or wet then the walls should be immediately repaired and the wires must be replaced.

Don'ts

- Don't go back into the building - not for toys or even pets. Fire fighters can search the house much more quickly than you can.
- Never hide in a cupboard or under a bed. You need to raise the alarm and get out.
- The cables shouldn't be put under the carpets or mats where they can become worn out. This is mainly seen in the administrative unit of the school.
- Lights shouldn't be positioned near the curtains and other materials that could burn easily.

The Threat of Terrorism

Terrorism is a word derived from the French word '*Terrorisme*'. It is a mental action, creates fear and danger. Terrorists addict to inferiority and emotions and they want to inculcate their ideology in others forcefully by threatening others. These terrorists are anti social. Though terrorism is socially fanatic and prohibited in religion, a few misquote their religion and following terrorism. It Mahatma Gandhi preached *ahimsa* or non-violence and truth as the tools for peaceful resolution of issues between people, communities or countries. Over the years, as science and technology have progressed, so has man's inherent greed for power and wealth, along with increased hostility between various groups of people in the world. Contrary to the hope of the integration of population across the globe into a 'world community' in harmony with each other, which was expected as a result of development, war and internal conflicts have plagued the world, causing immense suffering to vast numbers of people.

Activity

From the nearest fire station, find out what are the other simple Dos and Don'ts that you can follow and awareness to reduce fire accidents.

- Find out about the terrorist attacks that have taken place recently in India. Discuss what effect do they have on children.

Terrorism has become common in certain parts of the world. In these areas, children live under the constant fear of attacks and violence. Often, they do not attend formal schools and don't lead normal lives.



Fig. 21.4: Terrorist attack on Taj Hotel, Mumbai.

In case terror strikes in your area, here are some things that you need to do.

- Remain calm and relaxed and be patient.
- Follow the advice of local emergency officials.
- Listen to your radio or television for news and instructions.



Fig. 21.5: Bomb blast at Dilsukhnagar (Hyderabad)-2013

- If a disaster happens near you, check for injuries. Give first aid and get help for seriously injured people.
- If you notice any unidentified briefcases, bags, cycles, tiffin boxes, inform police. Stay away from those things.
- Shut off any other damaged utilities.
- Confine or secure your pets.
- Call your family contacts. Do not use the telephone again unless it is a life-threatening emergency.
- Check on your neighbors, especially those who are elderly or disabled.

Be alert, Be vigilant and Be safe...

1. Inform the police if you see any unowned objects like bags, suitcase etc. lying in public places or in a public transport as it could contain explosive device.
2. Call police Control Room on Telephone No. 100. Every citizen has the right to call the police up.
3. After informing the police try to keep a watch on the suspected object and caution others to keep away from it.
4. Be alert of any suspicious behavior, parked vehicle etc.

Citizen safety is everyone's concern. Different measures are adopted by various agencies to create awareness on safety. Police has issued some posters that can help us fight terrorism and help us in leading a safe life. Read them carefully and try to follow the tips and guidelines in your life.

Keywords

1. World community
2. Terrorism

Improve your learning

1. Explain how a natural hazard becomes a disaster?
2. What is Terrorism? What are the motives of terrorists?
3. What safety measures should be followed to avoid fire accidents?
4. What are the main causes of road accidents? How can we reduce the road accidents?
5. Terrorist attacks cause loss of life and wealth. What are the precautions to be taken to prevent these activities?
6. Identify the causes of rail accidents?
7. List out the reasons and risk inducing factors in your home, school or village.
8. Locate the following places attacked by terrorists in the India map.
a) Mumbai b) Hyderabad c) Bhagalpur d) Kumbakonam e) Bangalore
9. Write about an incident related to disaster you know.
10. Read the para titled 'Fire Accidents' on page 266 and comment on it.



For Parents

- First and most important, adults need to focus on the children and their lives in the aftermath of the horrific events.
- Helping children to separate fact from fiction is also important.
- Adults should try to discuss known facts with children, and help avoid speculation or exaggeration.

Interview:

Conduct an interview with any of the victim of road accident, inviting him/her to classroom and discuss on his/her sufferings and preventive measures.

Project

1. Collect information from newspapers and magazines about the human induced disasters that have taken place in the past few years in your state. Find out about measures that are being taken in your area to reduce such risks in the future.
2. List the various losses incurred due to terrorism.



Undoubtedly the innovation of wheel has brought drastic change in transportation of goods as well as people. Due to increase in population, industrialisation, urbanisation and globalisation, there is a heavy increase in vehicular traffic. So, systematic regulation is required to ensure free flow of traffic. Regulation is nothing but to ensure that every road user follow traffic rules. It is the responsibility of every end user of the road to follow traffic rules.

What is traffic?

Movement of any object from one place to another is traffic like wise movement of any vehicle from one place to another place on the road is road traffic.

What is Traffic Education?

Traffic Education describes the traffic rules and regulations in a clear and simple way. Have you ever seen an accident on the road? If so, how did they get hurt? Think about why had the accident happened?

Accident Victims- Age

Age	Cases	Age	Cases
00-05	24	50-55	207
05-10	58	55-60	138
10-15	40	60-65	113
15-20	152	65-70	57
20-25	345	70-75	49
25-30	380	75-80	13
30-35	254	80-85	12
35-40	294	85-90	0
40-45	226	90-95	0
45-50	215	95-100	0

- In which group do you find more cases? Can you think of the reasons.
- How many cases are there in the age group of both 20–25 and 25–30?

Need and significance of Traffic Education

As young people become more independent, they are exposed to increased risks. Especially teenagers are an important group of road users. Many are unaware that road incidents are the biggest cause for serious accidents and deaths. It is necessary to teach all the road safety measures clearly to avoid accidents.

Traffic Chaos

You have to go to school in the morning. If you are late, you may miss your. You are struck in a traffic jam. What will you do?

Students, employees, labourers, teachers, doctors and all are affected by traffic jams. Foot paths (Side walks) are considered a boon for pedestrians. But sometimes motorists drive on these side walks also.

Stray animals, fruit and vegetable sellers, private vehicles like cars, autorickshaws often found parking at No Parking Zones are the main causes for traffic jams. As there is an increase in population and use of automobiles, there has been a rapid increase in the volume of traffic on roads. To avoid accidents, one must know the prescribed rules and regulations.

Necessity of Driving License

No person shall drive a Motor Vehicle unless he/ she holds a driving license.

Types of Driving Licenses

1. Learner's License : This is a temporary license valid up to 6 months issued to learn driving motor vehicle.

2. Permanent License : One becomes eligible for permanent license after one month from the date of issuing the learner's license.

Documents required for Learner's License

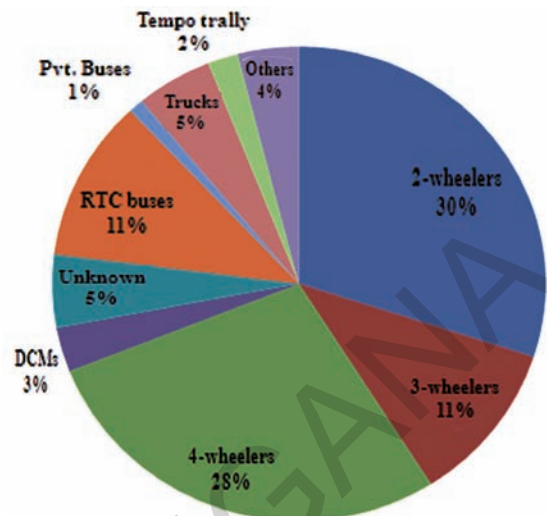
- Residence Proof (attested copy of the following)
Ration Card/ Electricity Bill/ Tax Receipts/ Life Insurance policy/ Voter ID Card/ Passport/ Adhar Card.
- Age Proof attested copies of the following
School Certificate/ Passport/ Birth Certificate/ Adhar Card/ PAN Card of Income Tax.

Some Important provisions of Law

- It is an offence to drive a vehicle without procuring a driving license.

Hyderabad City

Accidents: Accused vehicles



Total accidents - 2577

Accidents figures for the year 2012.

- Discuss the data relating to the accidents-accused vehicles in your classroom?
- Which type of vehicles are accused of more accidents? Can you think of the reason for this?
- What are Traffic Rules and regulations? Discuss in your class room.

- Age limit for motor vehicle above 50 CC is 18 years.
- Age limit for transport vehicles is 25 years.

Forms to be submitted: Form 1, 1A, 2 and 3 are to be submitted with prescribed details and passport photographs. After verification of the above documents a learner's test and colour blindness test will be conducted. A learning license is issued to the applicant who qualifies in the prescribed tests.

Permanent license: Permanent license will be issued only after having a valid learner's license. One should apply for the permanent license after 30 days but within 180 days from the date of issue of the learner's license. One more important thing is that one should be conversant about the traffic rules and regulations.

- Why it is compulsory to have a driving license?

Driving after a drink – Drunken Drive

Driving after a drink: Twenty eight year old Mukhesh is a party buff and likes to go out with his friends every weekend. But, of late, he is worried about returning home after the party. As the very site of the traffic police at the street corners sends jitters down his spine. This is not the case of just Mukhesh but many liquor consumers are now thinking twice before going to a party.

How breath analyser works : When a person drinks alcohol, it is absorbed into the blood and is circulated through, out the body. As this blood reaches the lungs, the breath we exhale carries traces of alcohol which is measured by the gadget. In a way, the exhaled breath would contain alcohol traces along with carbon-dioxide. These machines can pickup even the slightest traces of alcohol. Police Officer can not delete the record in breath analyser even if he wants to help the victim.



Fig. 22.1 What are the policemen doing?

Punishment for drunken driving

- Enable the officials to seize the vehicle of the drunken.
- Driver to attend court and pay the penalty imposed.

Cancellation of driving licenses

The Regional Transport Authority can disqualify persons from holding driving license or revoke the same if the person:

- Is a habitual drunkard.
- Is an addict to any narcotic drug
- Is using a vehicle in the commission of cognizable offence
- Is driving dangerously
- Is using the vehicle without registration
- Is not giving any information required to the police
- Is not shifting the victim of the accident in which his or her vehicle is involved to the nearest hospital
- Does not produce the following certificates on demand by police
 - Certificate of Insurance, - Certificate of Registration
 - Driving License - Pollution Certificate

Traffic Signs

1. Mandatory Signs

2. Information signs

3. Cautionary signs

MANDATORY SIGNS- Red circle instructs what should not be done.



Straight
Prohibited or no
entry



One way signs-vehicles prohibited
in one direction



Vehicles prohibited
in both direction



All vehicles
prohibited

INFORMATION SIGNS - Signs in the Blue rectangle informs.



First-aid
post



Public telephone



Petrol pump



Hospital



Resting place

CAUTIONARY SIGNS - Signs in the Triangle is for cautions.



Right hand
curve



Left hand curve



Right hair pin
bend



Left hair pin bend



Right reverse bend

- A few signs in each type are given above. With the help of your teacher collect the remaining signs from RTA office/ Traffic Police and present in the classroom.

Advice to Drivers

- Stick to the left lane and leave the right lane to faster traffic.
- Never over take from the left side.
- Wear a helmet for a safe journey.
- Use only less Carbon monoxide emission vehicles.
- Do not use horn unnecessarily.
- Heavy vehicle users should always use seat belts.
- Do not jump traffic signals.
- Keep your vehicle in good condition.

Kumari is a student, completed Intermediate with 95% marks. Her father wanted to give her a two wheeler as a gift. They went to local RTA office to get the information regarding registration of vehicle and driving license. As advised by the authorities, her father admitted her in a motor driving school. By providing necessary documents which we previously discussed, she got temporary license first and then a permanent license. The RTA officer explained the process to her father about how to get the vehicle temporarily registered and then permanently registered.

Necessity for Registration

No person shall drive any motor vehicle unless it is registered.

How registration is made

Temporary Registration: The following documents are necessary for registration.

1. Copy of sales certificate
2. Copy of road worthiness certificate
3. Copy of valid insurance certificate
4. Pollution under control certificate
5. Copy of address proof

Permanent Registration: An application for registration of a motor vehicle shall be made to the registering authority within a period of one month by producing the certificates which are submitted at the time of temporary registration.

Road Marking Signs

With the help of your teacher collect the road surface markings from RTA/ Traffic police and discuss the uses of various markings in the classroom.

Road surface markings are used on paved roads to provide guidance and information to drivers and pedestrians. Uniformity of the markings is an important factor in minimizing confusion and uncertainty.

Division of roads

1. Footpath : It is laid on either side of the road for the use of pedestrians. Its width is about 2 meters

2. Road divider : The road is divided into two halves with cement slabs

3. Zebra Crossings : Zebra Crossing is the place where the pedestrians cross the road. These are laid at places where traffic is heavy

Traffic Signals

A traffic light, traffic signal or a stop light is a signatory device position at a road intersection to indicate when it is safe to drive through. Follow traffic signals at the junction i.e.

Red- stop before line;

Orange- get ready to go;

Green- move the vehicle.



Road Safety

India has the second largest road network in the world. As the road users are not aware of the traffic rules, it leads to high toll of the death it victims.

Hurdle of road safety

1. Negligence of civilians
2. Pathetic conditions of roads
3. Unsafe vehicle design
4. Under implementation of road safety standards
5. Lack of proper enforcement of laws
6. Lack of emergency services.

Slogans

- ▲ Live and let live, follow traffic rules
- ▲ Ensure safety on road, follow traffic rules

Rules for pedestrians

1. Walk on the foot path. If foot path is not available and the road is narrow, walk on the right side of the road watching the oncoming traffic.
2. Must use reflective clothing at night when walking outside built up area.
3. Always use a torch while walking at night time.
4. Do look for safe place to cross and look left and right and listen for traffic.
5. Let any traffic coming in either direction.
6. Walk briskly straight across the road when it is clear and continue to watch and listen for walking.
7. Use zebra lines for crossing roads.
8. Don't use the mobile in any form while walking/ crossing i.e. either listening to songs.
9. Take the help of traffic police while crossing the road.
10. Pedestrains do not walk on roads in inebriated condition.



Fig. 22.2 : Dangerous to drive with overload

Rules for Motor Cycles

- Must hold a valid driving license.
- Must have insurance cover before you drive your motor cycle or moped on a public road.
- Riders should wear properly fitted and secured helmet.
- Carry only pillion passenger, who must sit on a proper seat.

Keywords

1. Vehicle registration
2. Breath analyser
3. Mandatory signs
4. Traffic Education
5. Driving licence

Improve your learning



1. What documents should a driver carry while driving and what skills are needed to drive safely?
2. What will happen if someone jumps the traffic signal? Explain.
3. Suggest a few steps that are taken in your area for road safety.
4. Explain mandatory, caution and information traffic signs with examples?
5. Kamala wants to purchase a new vehicle. Explain her what are the steps to be taken and what documents are to be produced for the registration of a vehicle?
6. Ramu wants to interchange his vehicle number to other vehicle. Is it correct or not? Explain, why?
7. Explain the need of road safety
8. Read the table of page 'Accident Victims- Age' of page 271, identify the age group for which more number of cases registered and draw a bar graph.
9. Read the paras under the title 'Traffic Chaos' of page 272 and comment on them.

Project

1. Collect the data from the traffic police/ RTA officials who are nearest to you .

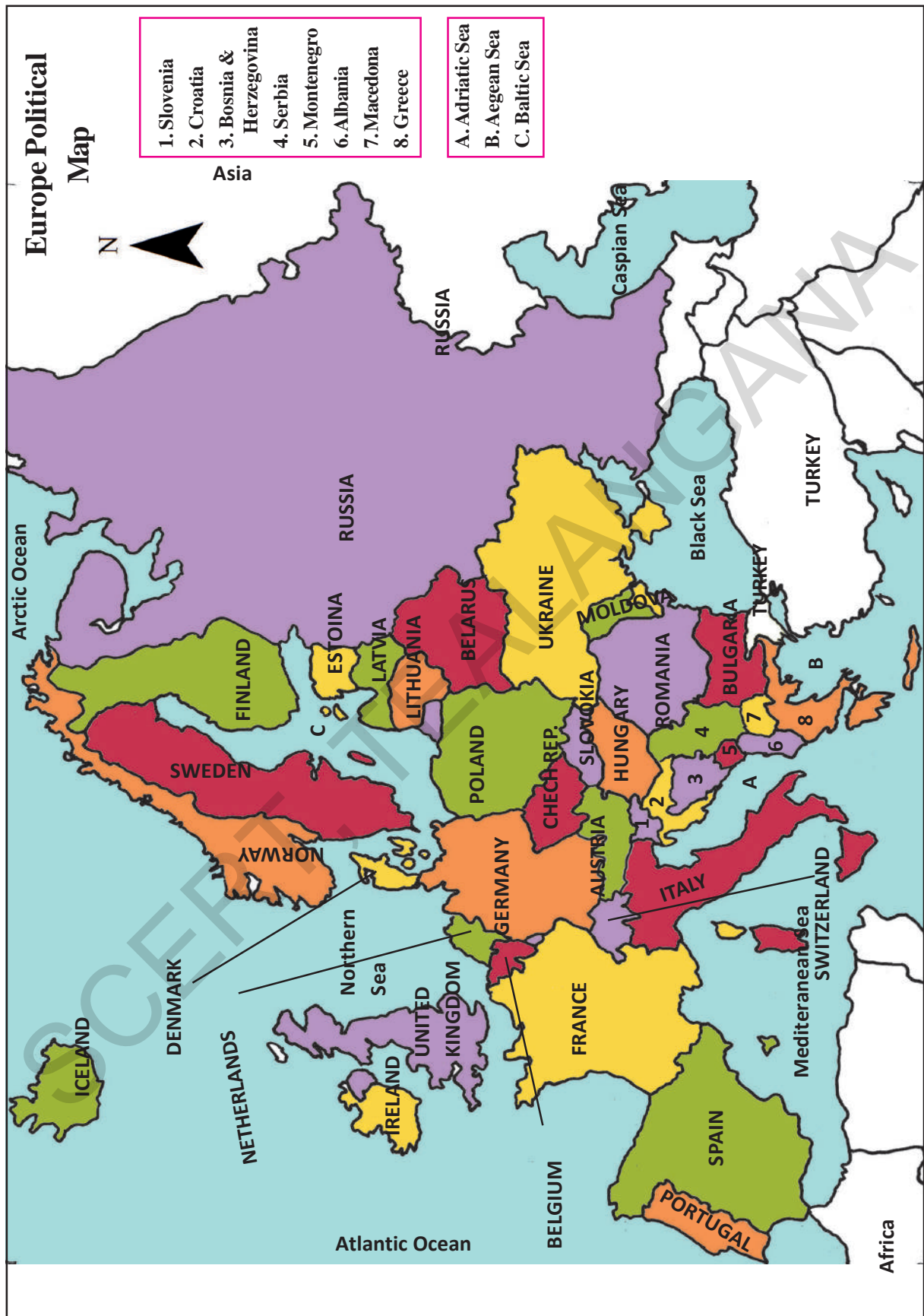
Month :

Place :

No. of cases booked :

Driving without Helmet	Driving without License	Not having registration papers	Not following traffic rules	No. of accident accused vehicles

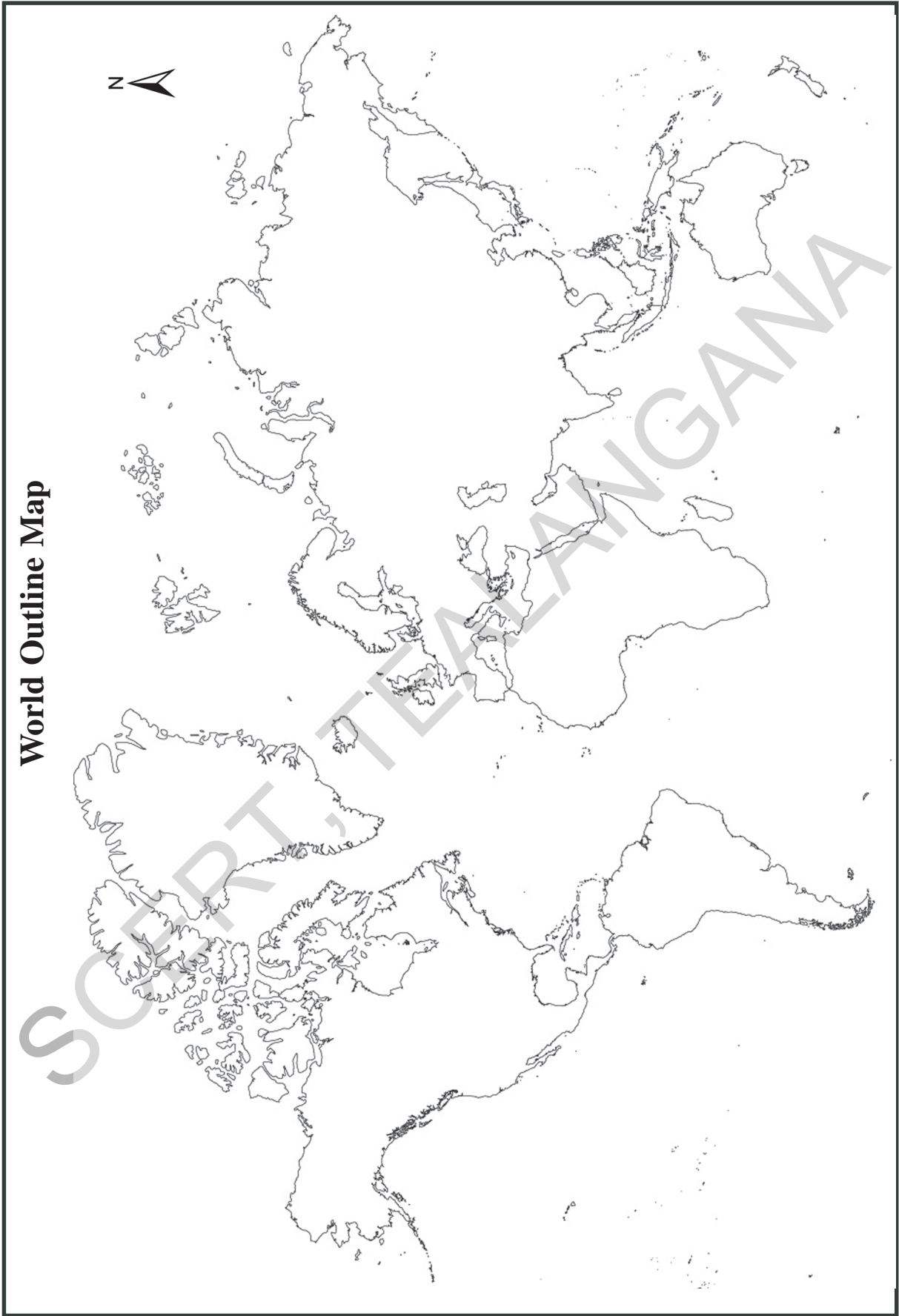
Analyse the data and discuss in your class room regarding traffic situations in your area.



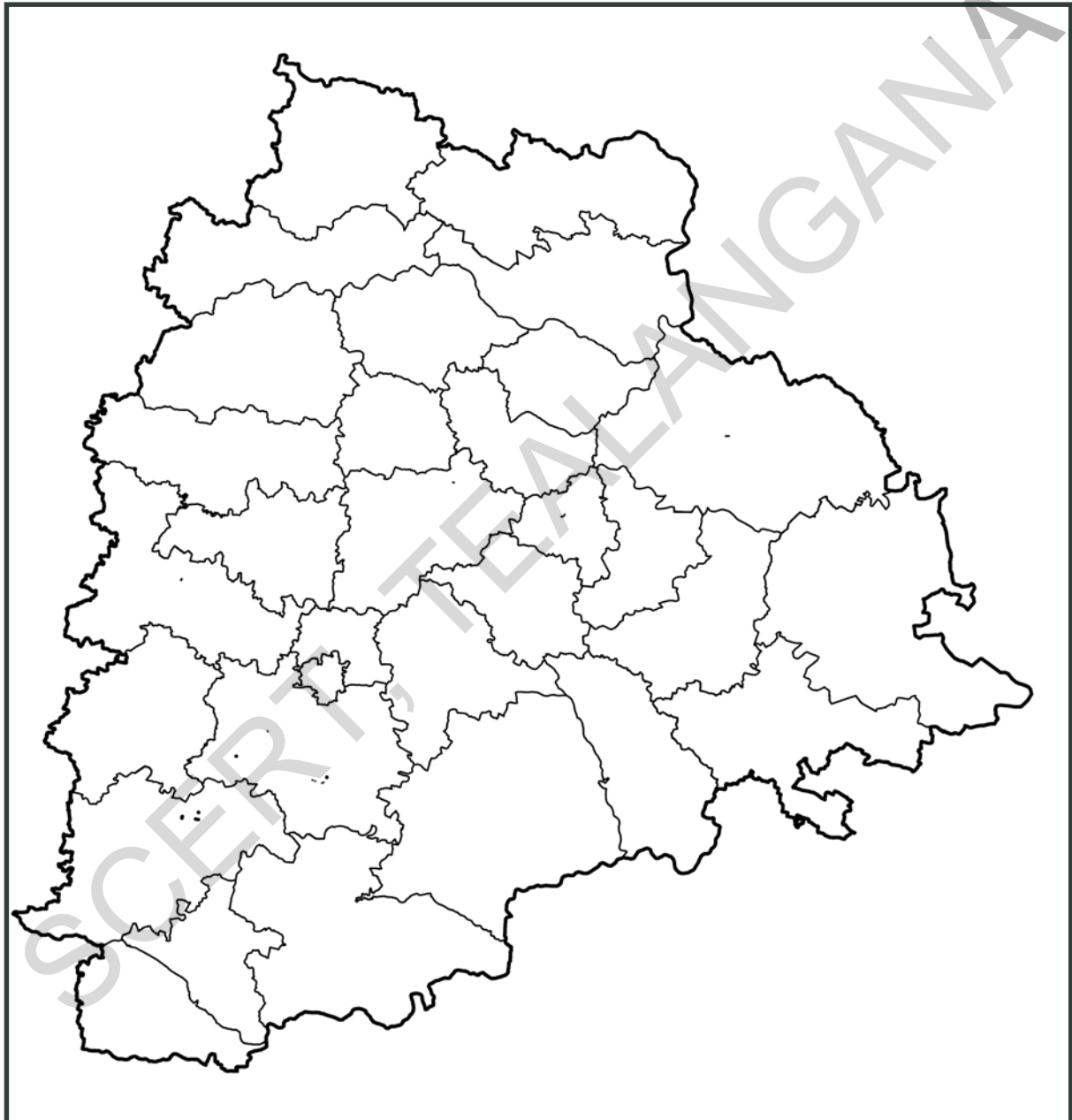
Africa Political Map



World Outline Map



Telangana Outline Political Map



LEARNING OUTCOMES

The Learner

1. Recognizes and retrieves facts, figures and narrate processes. For example:

- Recognizes and describes different physical features, types of forests, seasons etc.
- Describes political terms and concepts associated with democracy, autonomy, civil liberties, equality and inclusiveness, free and fair elections, minorities, fundamental duties

2. Classifies and compares events, facts, data, figures. For example:

- Classifies the sectors of the economy
- Compares the course of events leading to important revolutions in the world such as Glorious Revolution, American Revolution, French Revolution, Industrial Revolution.

3. Explains cause and effect relationship between phenomena, events and their occurrence. For example:

- Explains factors responsible for production of different crops in India.
- Explains the causes of human induced disasters.

4. Analyses and evaluates information. For example:

- Assesses the role of Self Help Groups (SHGs)
- Assesses the impact of important government welfare programmes aimed at a) poverty alleviation, b) generate self employment, c) ensure food security, d) protect labourers.

5. Interprets -

- Maps showing the location of different industries, paddy, providing status, unification of Germany, the iron industries in Britain.
- Texts showing the impact of using technology, depletion of resources, excess use of environmental resources, the implementation of labour laws, successful functioning of democracy, implementation of child and women protection acts.

6. Draws inter-linkages within Social Science. For example:

- Explains inter-relationship between foreign trade in agricultural products and political, economic policies.
- Explains the reasons for imbalanced growth of few places in the country.

7. Identifies assumptions, biases, prejudices and stereotypes about various aspects.

For example:

- People in different geographical regions of India
- Gender biased issues

8. Demonstrates inquisitiveness, enquiry, i.e. pose questions related to -

- Concentration of industries in certain areas
- Implementation of child and women welfare laws

9. Constructs views, arguments, and ideas on the basis of collected or given information. For example:

- Natural resources and their impact on the human lifestyle
- Implementation of Right to Education as the fundamental right of the children

10. Extrapolates and predicts events and phenomena. For example:

- Extrapolates on the use of chemical fertilizers.
- Come out with answers creatively on
 - a) Human induced disasters
 - b) Contract farming
 - c) Information Technology (IT) and outsourcing

11. Illustrates, decision making and problem solving skills. For example:

- Suggests measures to reduce inflation in general and particularly food inflation.
- Deciding on the appropriateness of resources in historical events and developments.

12. Shows sensitivity and appreciation skills. For example:

- Demonstrates or exhibits sense of citizenship such as adherence to the fundamental duties, maintaining health and hygiene being regular and punctual, follows the rules.
- Pathizes with differently abled and other marginalized sections of the society such as Scheduled Tribes, Transgenders etc.

Now your bank notes in a new design

RBI issues ₹2000, ₹500 & ₹200 notes in a new series



Distinctive features of the new ₹2000, ₹500 and ₹200 notes:

₹ 2000:

Size: 66mm x 166 mm | **Colour:** Magenta
Theme: Motif of Mangalyan depicting country's first venture into interplanetary space

For visually impaired :

- i) Horizontal rectangle with ₹ 2000 in raised print on the right
- ii) 7 angular bleed lines on left and right side in raised print

₹ 500:

Size: 66mm x 150mm | **Colour:** Stone grey
Theme: Indian heritage site – Red Fort

For visually impaired :

- i) Circle with ₹ 500 in raised print on the right
- ii) 5 angular bleed lines on left and right side in raised print

₹ 200

Size : 66mm x 146 mm | **colour:** yellowish orange
Theme: Motif of the Sanchi Stupa, representing the cultural diversity of India

For visually impaired:

- i) Mark H with ₹ 200 in raised print on the right.
- ii) Four angular bleed lines with two circles in between the lines on left and right side in the raised print.

Common features of the new ₹2000, ₹500 and ₹200 notes:

Obverse:

- 1 See through register in denominational numeral
- 2 Latent image of the denominational numeral
- 3 Denominational numeral in Devnagari
- 4 Orientation and relative position of Mahatma Gandhi portrait changed
- 5 Windowed security thread changes colour from green to blue when note is tilted
- 6 Guarantee clause, Governor's signature with Promise Clause and RBI emblem shifted towards right
- 7 Portrait and electrotype watermark

- 8 Number panel with numerals growing from small to big on the top left side and bottom right side
- 9 Denomination in numerals with Rupee symbol in colour changing ink (green to blue) on bottom right
- 10 Ashok pillar emblem on the right

For visually impaired

Intaglio or raised printing of Mahatma Gandhi portrait, Ashoka pillar emblem, bleed lines and identification mark continue

Reverse :

- 11 Year of printing of the note on left
- 12 Swachh Bharat logo with slogan
- 13 Language panel towards centre
- 14 Denominational numeral in Devnagari on right

New design notes in other denominations will follow

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