

Saraswati

6
CBSE

Social Science

REVISED




NEW SARASWATI
HOUSE



CONTENTS

HISTORY

1. What, Where, How and When	11
2. The Earliest Societies: On the trail of the Earliest People	21
3. The First Farmers and Herders (From Gathering to Growing Food)	30
4. The First (Earliest) Cities	40
5. Different Ways of Life (What Books and Burials tell us)	51
6. Kingdoms, Kings and an Early Republic	59
7. Rise of New Questions and Ideas	73
8. The First Empire: Ashoka, The Emperor who gave up War	84
9. Vital Villages, Thriving Towns	97
10. Contacts with Distant Lands: Traders, Kings and Pilgrims	105
11. Political Development: New Empires and Kingdoms	116
12. Culture and Science: Buildings, Paintings and Books	126

GEOGRAPHY

13. The Solar System and the Earth	137
14. Globe, Latitudes and Longitudes	145
15. Maps	152
16. Motions of the Earth	161
17. Realms of the Earth	166
18. Continents, Oceans and Associated Landforms	173
19. India: Location, Size and Relief	183
20. India: Climate, Vegetation and Wildlife	194

CIVICS

21. Meaning of Diversity	207
22. Diversity, Prejudice, Stereotypes and Discrimination	215
23. What is Government?	222
24. Key Elements of the Democratic Government	229
25. Panchayati Raj in India	233
26. District Administration	240
27. Urban Administration	247
28. Rural Livelihoods	254
29. Urban Livelihoods	260

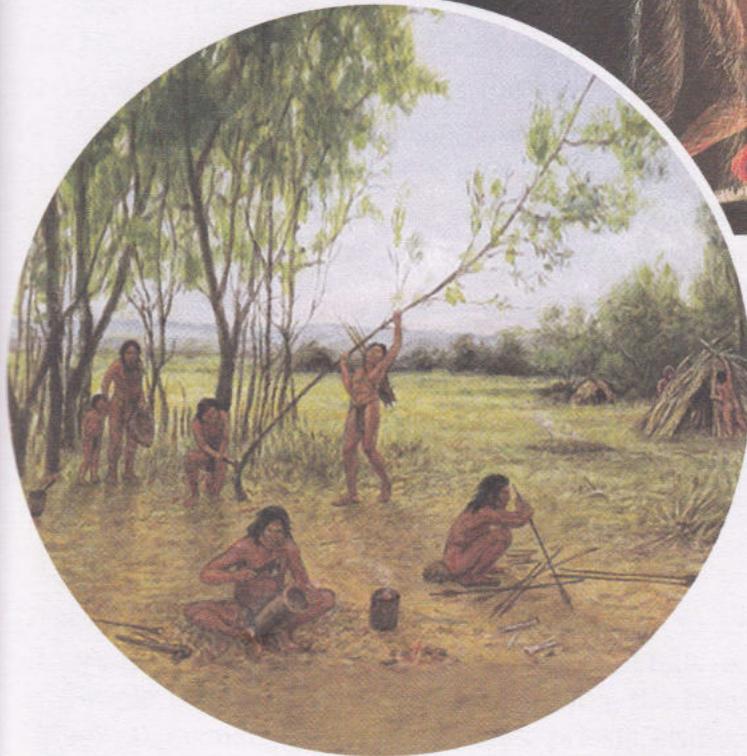
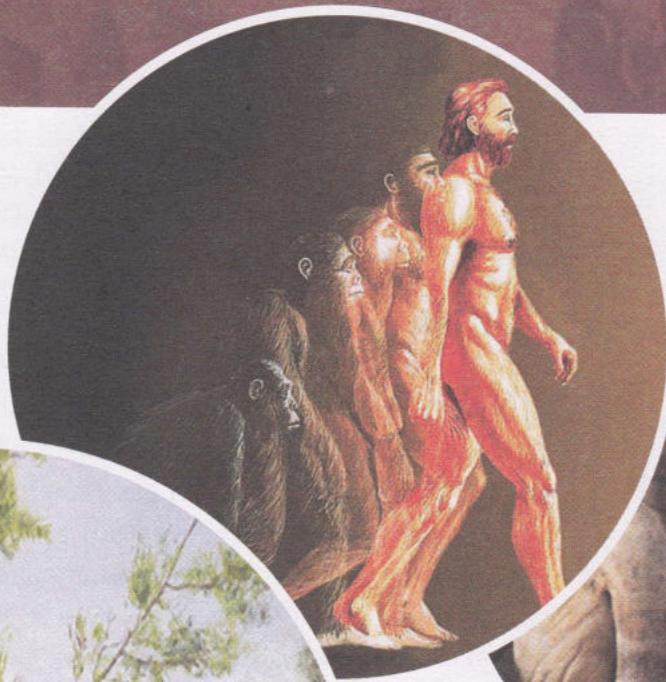
History

Our Pasts-I

- 11
- 21
- 30
- 40
- 51
- 59
- 73
- 84
- 97
- 105
- 116
- 126

- 137
- 145
- 152
- 161
- 166
- 173
- 183
- 194

- 207
- 215
- 222
- 229
- 233
- 240
- 247
- 254
- 260



1



What, Where, How and When

An Introduction to History

History is an essential part of human life. The various aspects which we study in history, form the overall personality of the society and the people. Thus, history is the study of the entire past of human kind which is millions of years old. We are always curious to know who were our ancestors, where did they come from and what kind of life did they live. We can have a real peep into the past of a society or nation by studying its history.

History is called '*Itihaas*' in Sanskrit. The term *Itihaas* means 'it actually happened so'. The English terms for it are 'History', 'Annals', etc. History tells us the story of our past. It is the study of people, their lives, actions and beliefs across the ages. History also serves as a systematic records of the past events. A scholar who reconstructs the past by studying the events of past and recording the findings in a systematic order is known as a **historian**. The Study conducted by him enables us to figure out what, where, how and when certain things happened.

We must know that history is no longer treated as merely a study of dates and events but the emphasis has shifted to the study of our rich cultural heritage which helps us in knowing our roots and origin. This, undoubtedly, makes history more interesting and helps in understanding our society in a better way.

Knowing the Past

The study of ancient Indian history helps us to know about our ancestors – their foods, dresses and houses. It tells us about the lives of people from different communities like the hunters, herdsman (herders), farmers, rulers, merchants, priests, craftspersons, artists, musicians and scientists.



Fig. 1.1: Historian

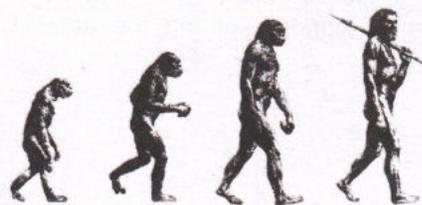


Fig. 1.2: Early men



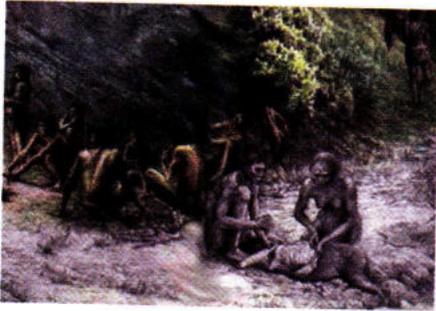


Fig. 1.3: Habitat of the early men

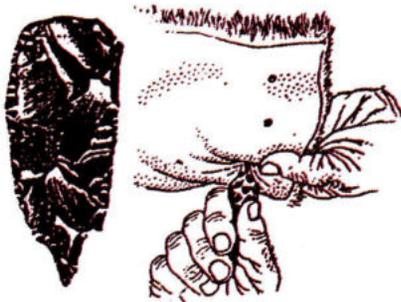
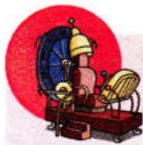


Fig. 1.4: Making clothes out of animal skin



Time Travel

Imagine that you are one of the powerful rulers of the Magadh Kingdom. Tell your classmates about the factors which have contributed in the successful setting up of the first large kingdom during the ancient

It also makes us familiar with the various activities of the children and the means of their entertainment. It is worth mentioning that the children were very fond of playing various games, hearing stories and singing even in that remote past.

Habitat of the People

In Indian subcontinent*, people lived along the banks of the Narmada River for some hundred thousand years. Some of the earliest people living near Narmada River were skilled gatherers. Such people, who were gatherers of their food, were known as food-gatherers. They were familiar with the huge wealth of plants existing in the nearby forests. As they did not know how to grow food, they collected wild roots, fruits and grains to satisfy their appetite. They also hunted animals and ate raw meat since they did not know how to make fire. In the beginning, they wore nothing. Later, they began to cover their bodies with barks or leaves of trees and skin of the animals.

Learning the Art of Cultivation and Domestication of Animals

With the passage of time, the man came to learn the art of cultivation. The historian, Amy Hackney Blackwell, opines that about 8000 years ago, the women and men first began to grow crops like wheat and barley on some of the areas located on the Sulaiman and Kirthar Hills to the north-west.

They also started domesticating animals and living in villages. They reared sheep, goat and cattle. But probably, the dog was the first animal that they domesticated for hunting. Garo Hills to the north-east and the Vindhyas in Central India were some of the other areas where cultivation came to be practised. The historians believe that rice was first grown in the areas to the north of the Vindhyas.

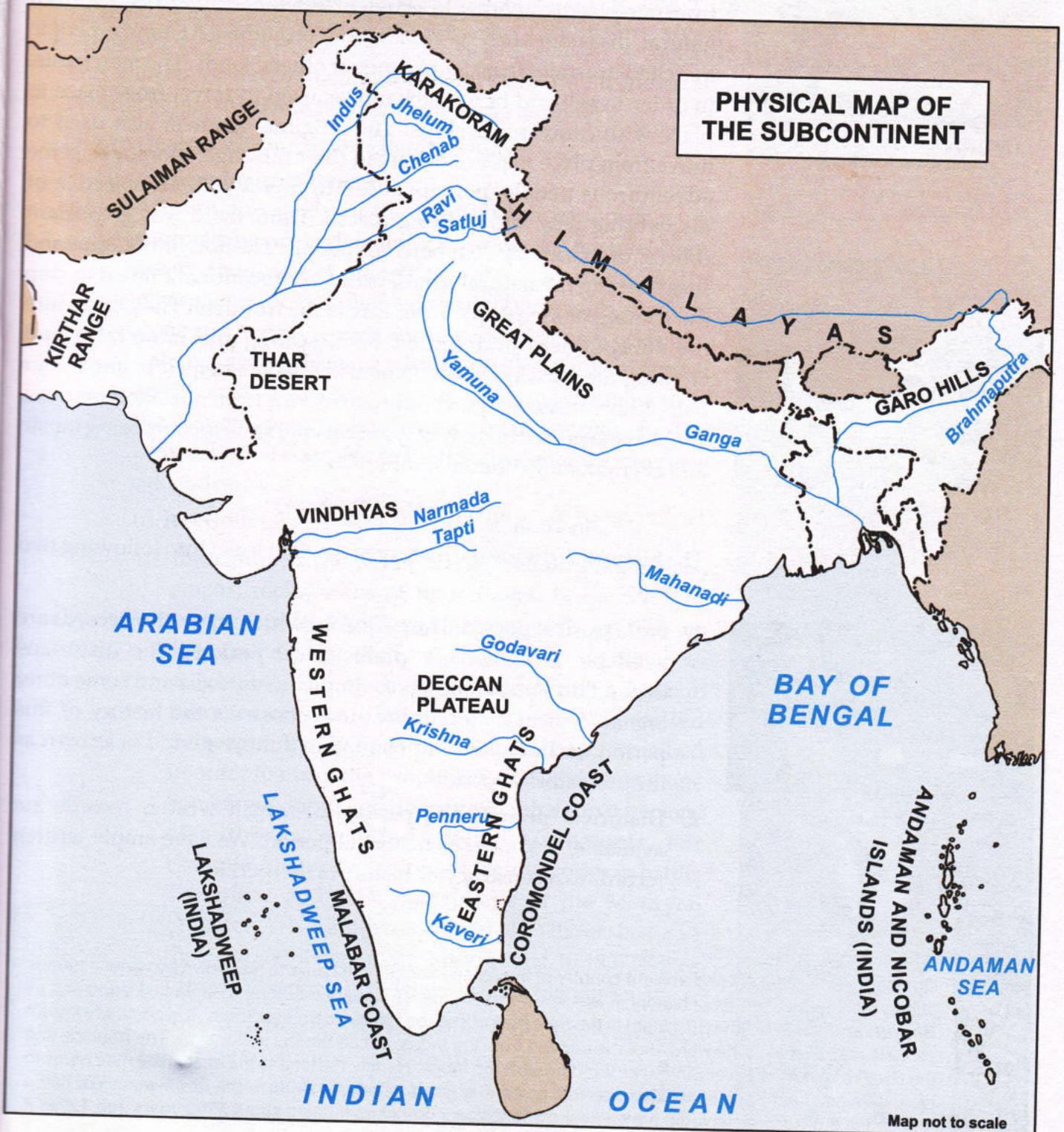
Emergence of Cities and Large Kingdoms

Around 4700 years ago, the cities started coming into existence. Some of the earliest cities developed on the banks of the River Indus and its tributaries. You must know that the small rivers that flow into a larger river are known as tributaries. The cities flourished on the banks of the Ganga and its tributaries and a little later, along the sea coasts.

* The Indian subcontinent is well-defined land with natural borders. It comprises six countries namely, Pakistan, India, Bhutan, Nepal, Bangladesh and Sri Lanka. Maldives, a string of coral islands, south-west of Sri Lanka, is also considered part of this region. Of all these, India is the largest and the most significant.



The area along the Ganga and its tributary, the Son, to the south of the Ganga, was known as Magadha during the ancient period. Its strong and powerful rulers succeeded in setting up the large kingdom there which had been further extended by the subsequent rulers. Similarly, kingdoms were also established in other parts of the country. The kingdoms have also come up in South India, in the course of time.



Map 1.1: Physical Map of the Subcontinent



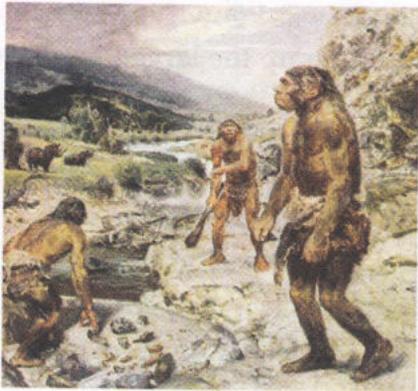


Fig. 1.5: Early men moved from one place to another



Fig. 1.6: An archaeological site



Fig. 1.7: Old stones

People Kept on Moving

The people kept on moving here and there in the subcontinent. The journeys were not easy in those days. The hills and high mountains like the Himalayas, deserts, rivers and seas made the journeys very difficult and dangerous at times. However, the people had to move from one place to another in search of livelihood and to escape from natural disasters such as floods and droughts. At times, people marched in armies in order to conquer others' lands. The merchants, in order to sell and buy merchandise, used to travel from place to place with caravans or ships. The religious teachers also used to move from place to place to spread their message. Moreover, some adventurous people, perhaps, used to travel with an objective of discovering new and exciting places. Thus, there was a constant process of sharing of ideas between people. The hills, mountains and seas forming the natural frontiers of the subcontinent failed to stop the coming of the people from across the frontiers. They came into the subcontinent and settled here, scaling the mountains and crossing the seas. These movements of people helped to enrich our culture in various ways. People learnt a lot from one another, thus, enabled the growth of new ways of carving stones, composing music and even cooking different kinds of food.

Sources of Ancient Indian History

The historians divide the history of Ancient India into following two periods:

1. **Prehistorical period:** The period for which no written records are available is known as 'prehistorical period'. The historians depend on some stones, bone implements, tools and some other archaeological materials etc., to reconstruct the history of this period. In India, the Pre-Harappan culture period is known as the prehistorical period.
2. **Historical period:** The period for which written records are available, is known as historical period. We have ample written records to reconstruct the history of this period.



Our Heritage

Our land, India, is a vast and ancient country of the Asian Continent. It came to be known by various names during the various periods of history. It was known as *Aryavarta* (land of the Aryans) in Vedic Period and as *Bharatvarsha* (land of the Bharatas) in the Epic Period and the Pauranic Period. Today, it is popularly known as India and *Bharata*. The word 'India' is derived from the Indus, called *Sindhu* in Sanskrit. The Iranians and the Greeks called the River *Sindhu* as the *Hindos* or the *Indos*. Hence, the land to the east of the river came to be known as 'India'. The name *Bharata* was given to a group of people living in the north-west. We find a mention of them in the *Rigveda*, the earliest composition in Sanskrit. It dates about 3500 years ago. Later, it came to be used for the country.





Do You Know

One of the earliest scripts in history was that of the ancient Egyptians who used a form of writing called hieroglyphs. This system involved a pictographic representation of various objects and creatures to denote alphabets.



Fig. 1.8: Egyptian Hieroglyphic Alphabet

The sources for reconstructing the history of Ancient India can broadly be classified into two main categories as under:

- (a) Archaeological Sources (b) Literary Sources

(a) Archaeological Sources

A historian's study of the prehistorical period depends thoroughly on archaeological sources. 'Archaeology' means the study of the remains of the ancient past. The monuments or buildings, coins, pottery, tools made of stone and metals, figures, images and various articles, etc., used by the people living many centuries ago, come under archaeological sources. A person studying the remains of the remote past is known as an **archaeologist**. The archaeological sources can be classified mainly into three categories:

- (i) Inscriptions (ii) Coins (iii) Monuments.

(i) **Inscriptions:** The writings engraved on stone pillars, stupas, rocks, walls of the temples, bricks, images, copper plates and seals, etc., are known as **inscriptions**. The study of inscriptions is known as **epigraphy**. The study of the old writing used in inscriptions and other old records is called **palaeography**. Often, kings got their orders inscribed in order to make the people see, read and obey them. Sometimes, kings and queens and other great persons of authority recorded their achievements. For example, kings often recorded their victories in battle. The pillar and rock inscriptions of the Mauryan Emperor, Ashoka, are considered to be the earliest and the most significant of the inscriptions. In 1837, James Prinsep first deciphered the Ashokan Inscriptions.

An inscription of Ashoka, dating about 2250 years ago, has been found in Kandhar, the present day Afghanistan. It was written in two different scripts and languages, Greek (top) and Aramaic (below) which were in common use in that area. You must

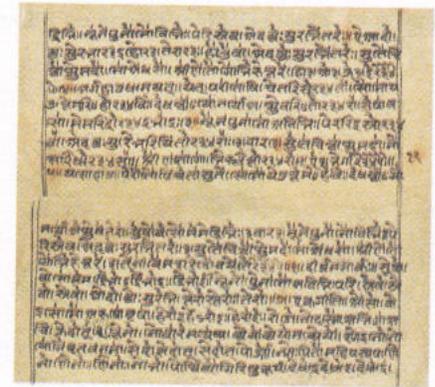


Fig. 1.9: Written documents from historical period



Fig. 1.10: An archaeologist at work

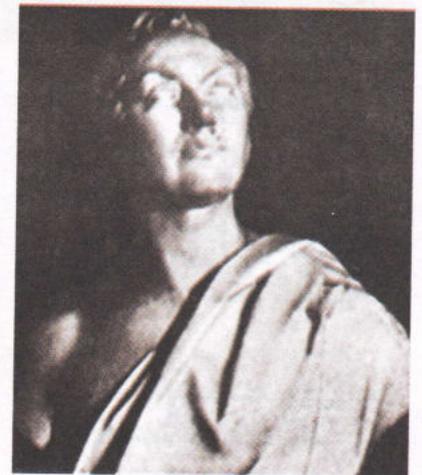


Fig. 1.11: James Prinsep





Fig. 1.12: Ashokan Inscriptions on Pillar



Fig. 1.13: Coins: A valuable archeological source



Fig. 1.14: Monument – The Buland Darwaza



Fig. 1.15: Manuscripts

know that scripts consist of letters or signs. When we write anything, we use a script. When we speak or read what is written, we use a language. The inscriptions occupy the most significant place among the archaeological sources.

(ii) **Coins:** The coins are considered the second important source of reconstructing the ancient Indian history. The study of coins is known as **numismatics**. The earliest coins of India do not have any inscription; they bear only symbols on them. These coins are known as **punch-marked coins**. The coins tell us about the concerned ruler, extent of his empire and social, economic and religious conditions of his times.

(iii) **Monuments:** The ancient monuments, *i.e.*, the buildings, temples, images, stupas and viharas, etc., help us significantly in reconstructing the history of ancient India. The archaeologists study the remains of the monuments and also explore and excavate to find the objects like tools, implements, pots, ornaments, coins, etc. These objects may be made of stone, bone, baked clay or metal. You must keep in mind that the objects made of hard and enduring substances normally hold out for a long time. Archaeologists also study bones of animals, birds and fish to know about the food habits of the people in the past.

(b) Literary Sources

The literary sources provide us valuable information regarding the reconstruction of ancient Indian history. They are in the form of handwritten documents known as manuscripts. The word 'Manuscript' is derived from the Latin word 'manu' which means 'hand'. Thus, manuscripts are ancient books written by hand either on dried palm leaves or the thick bark of the birch tree which grows in the Himalyas or on paper. A number of manuscripts have been destroyed by insects, etc., but many have survived. Often, they have been preserved in temples and monasteries. They throw ample light on almost all subjects, such as, religious beliefs and practices, the lives of kings, medicine and science, etc.

We must keep in mind that books written on paper are not as old as the ones written on leaves and barks. Some of the very old books are written in Pali and Prakrit, the languages used by the common people in those days. Some



are written in Sanskrit and some others have been authored in Tamil. Later on, manuscripts were written in Arabic and Persian. In Europe, they were written in Roman, Latin and Greek also. The literary sources mainly include **religious literature, secular literature** and the **accounts of foreign travellers**.

Different Past of Different Groups of People

It is worth mentioning that different groups of people had different past. For example, there was a big difference between the lives of the herders or farmers and the kings or queens. Similarly, there was no similarity between the lives of the merchants and those of the craftspersons. Even today, different practices and customs are followed by different groups of people in different parts of the country. For example, even today most of the people in the Andaman Islands arrange their own food by fishing, hunting and collecting forest produce. But in cities, most of the people depend on others for food supplies.

Besides, we find another great difference. As the kings used to keep records of their battles and victories, we get a vast information about kings and their activities. On the other hand, we do not know much about other common people such as hunters, fishing folk, gatherers, farmers or herders because there are no such records available of their activities. Thus, much remains unknown about their lives.

What Do Dates Tell Us?

It is worth mentioning that in present times, almost all the countries of the world follow western chronology to keep the record of their events. According to it, the period which began after the birth of Jesus Christ, the founder of Christianity, is termed as 'Anno-Domini' or AD. It means 'the Year of the Lord,' *i.e.*, the Christ. All dates before the birth of the Christ are counted backwards. They are termed as BC, *i.e.*, Before Christ. For example, 2000 AD means 2000 years after the birth of Christ.

Sometimes CE and BCE are used in place of AD and BC respectively. CE stands for 'Common Era' and BCE stands for 'Before Common Era'. In India, these dates came into usage about 200 years ago. The letters 'BP' which stand for 'Before Present' are also used now and then.



Fig. 1.16: Inhabitants of Andaman





In Other Lands

It has already been mentioned that inscriptions are engraved on hard surfaces. All inscriptions have their own scripts and languages. With the passage of time, both the scripts and the languages have changed. The scholars try to understand the written matter through a process which is known as 'decipherment'. One of the most interesting cases of decipherment comes from Egypt, a country in North Africa. Here, the kings and queens were in existence about 5000 years ago.

An inscribed stone was found in Rosetta, a town on the north coast of Egypt. It had inscriptions in three different languages and scripts, Greek and two forms of Egyptian. Scholars who were able to read Greek calculated that the names of kings and queens were encircled by a little frame, known as cartouche. Placing the Greek and the Egyptian signs side by side they succeeded in identifying the sounds of the Egyptian letters. As you find in the picture, a lion stood for L, a bird for A, a square for P and a semi-circle for T. Once knowing the meaning of the letters, they were able to read other inscriptions as well.



Fig. 1.17: Kinds of writings of ancient history



Dates to Remember

	Event	Date
1.	Wheat and barley were first grown	About 8000 years ago
2.	The first cities on the Indus	4700 years ago
3.	Composition of the Rigveda	About 3500 years ago



Let Us Recall

Archaeology: It is the study of the remains of the ancient past.

Archaeologist: A person who studies the remains of the artefact and human activities of the past.

Itihaas: It literally means, 'it actually happened so'

Historian: It is the scholar who reconstructs the past by studying the events of past and recordings the findings in a systematic order.

Bharatvarsha: The ancient name of India in the Epic period and the Pauranik period.

Inscriptions: These are the writings engraved on hard surfaces.

Epigraphy: It refers to the study of inscriptions.

Numismatics: It refers to the study of coins.

Manuscripts: These are the handwritten documents.

Decipherment: It is a process of understanding the written matter.





EXERCISES

A. Choose the correct answer.

- Which crops were first grown by the early man?
(a) wheat and barley (b) maize and barley
(c) rice and wheat (d) maize and wheat
- The Rigveda was written about
(a) 3000 years ago (b) 2500 years ago
(c) 8000 years ago (d) 3500 years ago
- The earliest cities developed on the banks of which river?
(a) Indus (b) Brahmaputra
(c) Mahanadi (d) Narmada
- The name of India came to be known as 'Aryavarta' in
(a) Epic Period (b) Vedic Period
(c) Pauranic Period (d) Modern Period
- The study of coins is called
(a) epigraphy (b) archaeology
(c) numismatics (d) paleography

B. Answer the following questions.

- What is history?
- Discuss the importance of the study of history.
- Describe the western chronology.
- Why did the people keep on moving in ancient times?
- Which are the main sources of reconstructing the ancient Indian history?
- How was India used to be known as in Vedic Period and Pauranic Period?
- What are the sources of reconstructing the history of Ancient India?

C. Match the following.

Column A

- Narmada Valley
- Garo Hills
- Magadha
- Ganga Valley
- Historian

Column B

- (a) the first big kingdom
- (b) a person who studies past events and records
- (c) cities about 2500 years ago
- (d) earliest skilled gatherers
- (e) early agriculture



D. Fill in the blanks.

1. _____ is an essential part of our life.
2. A _____ is a scholar who reconstructs the past by studying the events of past and recording the finding in a systematic order.
3. On the Indian subcontinent, people lived along the banks of the _____ River.
4. Our historians believe that _____ was first grown in the areas to the north of the _____.
5. The name _____ was given to a group of people living in the north-west.
6. The Pre-_____ culture period in India is known as the prehistorical period.
7. About 2250 years ago, an inscription of _____ has been found in _____.

E. State whether the following statements are true or false:

1. History is the study of entire present of man.
2. Some food-gatherers lived near Ganga River.
3. The cities started coming into existence about 4700 years ago.
4. History of ancient India was divided into eight periods.
5. James Princep first deciphered the Ashokan Inscriptions in 1837.

1. Individual Activity

- (a) Collect some coins that are in circulation today and prepare a report that how do they differ from the punch-marked coins?
- (b) Make a list of at least five crafts that you know.

2. Survey

Form groups and survey some local areas to collect more informations about the craftspersons. Are the craftspersons (i) men (ii) women (iii) both men and women?



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The Earliest Societies: On the Trail of the Earliest People



It is interesting to know that people lived in the Indian Subcontinent as early as two million years ago. We come to know of this first phase of human history from the stone tools and implements of that period. Hence, this phase of the prehistoric age, is known as the 'Stone Age'.

The Stone Age was a sufficiently lengthy period. The scholars, to make its study easy and convenient, divided it into three periods, *i.e.*, the Palaeolithic, the Mesolithic and the Neolithic. However, we should keep in mind that generally, the Stone Age is divided into two parts, *i.e.*, the **Early Stone Age** and the **Later Stone Age** or **Neolithic Age**. We will study about the **Early Stone Age** in the present chapter.

The Hunter-gatherers

The people of the Early Stone age have been described as **hunter-gatherers**. As they did not know how to grow vegetables or grains, they generally hunted wild animals, caught fish and birds, and ate raw meat. They gathered fruits, roots, nuts, seeds, leaves, stalks, eggs, etc. in order to satisfy their appetite. The tropical land like India had an immense variety of plants. Hence, gathering plant produce had become a very significant means of getting food.

Hunting or catching animals was not an easy and comfortable task. It required a great ability of quickness and deep presence of mind. There were a number of animals that ran faster than men and were more strong and powerful. Also, while collecting plants, it was necessary to know which plants or parts of plants were eatable as many of them could be venomous. So, it was also imperative to know about the seasons when the fruits would ripen.



Fig. 2.1: Hunter-gatherers



Fig. 2.2: Early humans hunted wild animals



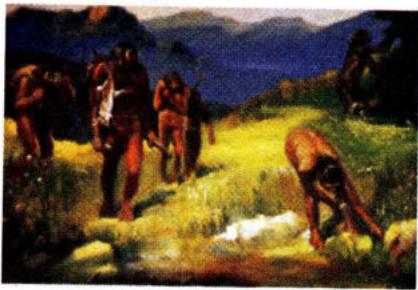


Fig. 2.3: Early humans wandered in search of food and shelter



Fig. 2.4: Early humans inhabited areas near the river valleys



Fig. 2.5: Core tools



Fig. 2.6: Flake tools

Why Did the Hunter-gatherers Move From Place to Place?

The hunter-gatherers lived lives of nomads. They wandered in groups from place to place in search of food and shelter because of the following reasons:

1. Staying at one place for a long time meant to eat up all the available plant and animal resources. Hence, when they had eaten or hunted all that they could find in a certain place, they had to move elsewhere in search of more food and animals.
2. The animals in search of smaller prey or grass and leaves, moved from place to place. Hence, the hunter-gatherers too, had to move in order to follow their movements.
3. The plants and trees could not bear fruits in all the seasons. They bore fruits in different seasons. Consequently, the early people too, had to move from season to season in order to search different kinds of plants.
4. They started to live near river valleys and lakes as water was available and land was fertile. Some rivers and lakes were perennial, *i.e.*, they had water throughout the year. But some rivers and lakes were seasonal. They dried up during the winter and summer seasons. Thus, the people living on their banks had to move to other places in search of water. People travelled from one place to another to meet their friends and relatives. We should know that people travelled on foot in those days.

Archaeological Sources to Trace Hunter-gatherer's Past

We came to know about the life of the hunter-gatherers from the things which were made and used by them. The early people made and used tools of stone, wood and bone. Of these, stone tools have been found in large numbers by the archaeologists.

Tools and Weapons

The tools and weapons of the Early Stone Age were made by chipping stones. They were used for hunting and other purposes. They were mainly of two kinds:

1. **Core Tools:** Core tools were usually oval or pear-shaped. Normally, they were heavy and were used as hand axes for cutting trees, shaping sticks from wood and digging the Earth. In the beginning, the axe heads were used without a handle, but later they were tied to a stick. The handle provided them greater force thus making them more efficient.
2. **Flake Tools:** Cleavers and choppers were main flake tools. They were used for cutting and splitting trees, slaying the animals and chopping the meat. They were given sharp pointed edges and tied to arrows and spears.



The use of tools helped in various ways. It enabled people to cut down the branches of trees, to dig the Earth, to shape wood and stone and to kill animals.

How Stone Tools Were Made?

Perhaps, two different techniques were used in making the stone tools. These were:

- 1. Stone on Stone:** Under this technique, the pebble (also known as core*) to be used for making tool, was held in one hand. Another stone to be used as hammer, was held in the other hand. It was used to strike off flakes from the first to get the required shape.
- 2. Pressure flaking:** Under pressure flaking technique, core was placed on a firm surface. A piece of bone or stone was placed on the **core**. It was struck by the hammer stone. Thus, the flakes were removed to get them shaped into tools.

Sites

The places where remains of tools, pots, dwellings, etc., have been found, are known as **sites**. The remains of the things are found on the surface of the Earth, under the Earth and even under water. The scholars believe that these were made, used and left behind by the early people.

In the Indian Subcontinent, the remains of the hunter-gatherers have been found in the Son River Valley (Pakistan), in the upper Narmada region and near Chennai (Madras). Bhimbetka, Hunsgi and Kurnool Caves were their main habitation sites. Many sites were located near rivers and lakes, the sources of water.

Factory Sites

The archaeologists have found some factory sites belonging to the early stone age. The places where stones were found and where people used to make tools are known as factory sites. The blocks of stones, the discarded imperfect tools and chips of waste stones left behind suggest that these places must have been used as **factory sites**.

Habitation Sites

The places where the early people lived are known as **habitation sites**. The early people did not know how to construct a house. They lived in caves and rock shelters. Weather and wild animals were the two main things, the people were afraid of. We should remember that India at that time was covered with thick and dense forests. The ferocious animals like tigers, lions, panthers, elephants and rhinoceroses roamed here and there freely. Caves provided them shelter from the rain, heat, wind and wild animals. Such natural caves and rock shelters have been found in the Vindhyas and the Deccan Plateau.

* The stone left after chipping is called core.

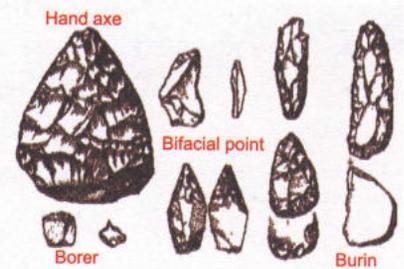


Fig. 2.7: Stone tools

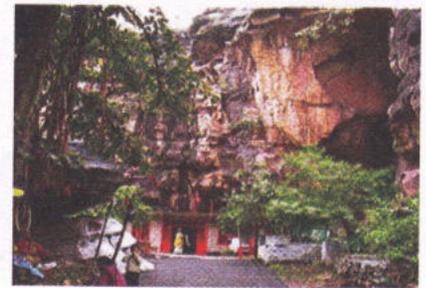


Fig. 2.8: Bhimbetka Site

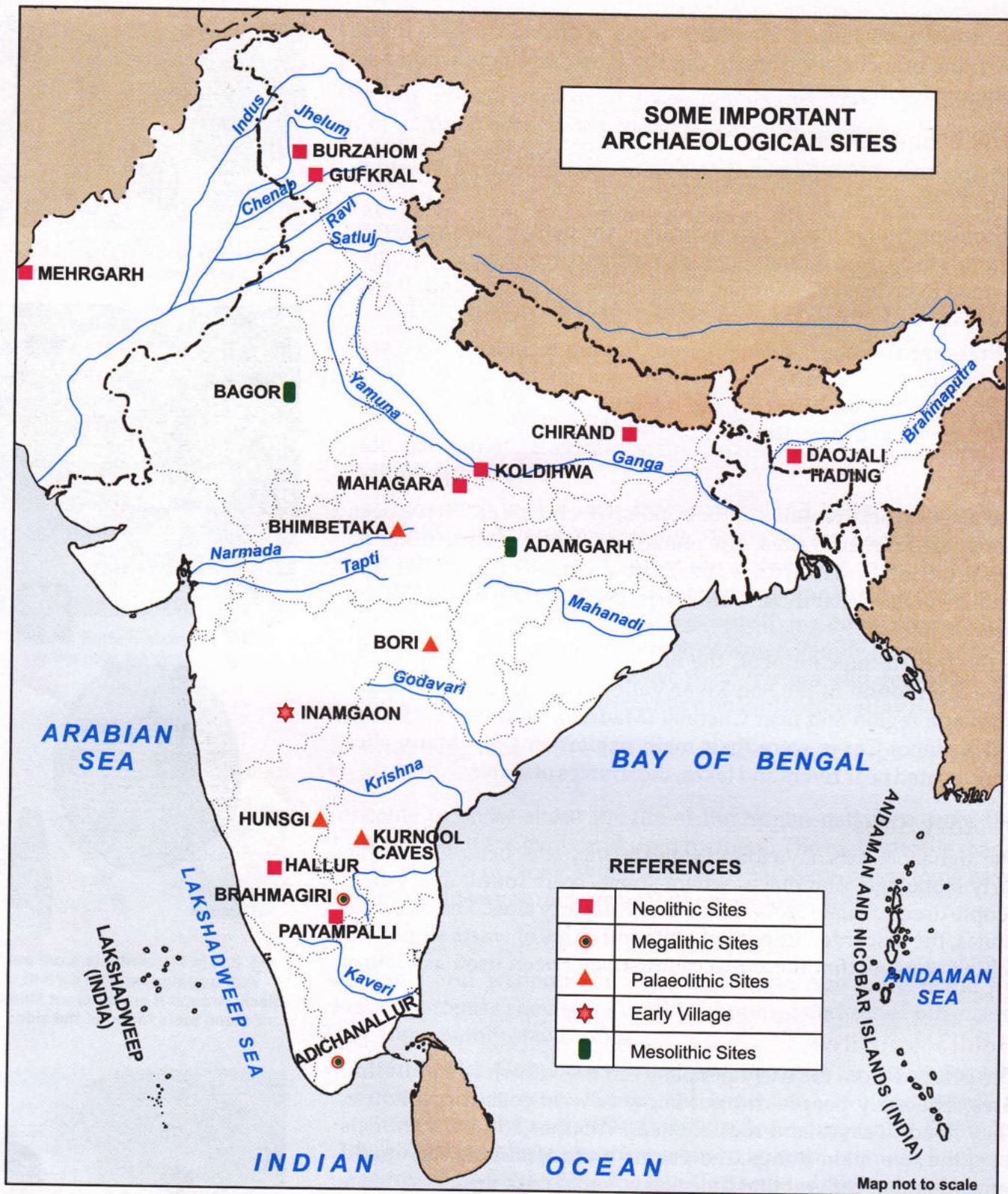


Fig. 2.9: In the centre is a red pot with a design painted on it in black. Around it are different kinds of stone tools found at the site.



Fig. 2.10: Habitation in caves





Map 2.1: Some important archaeological sites

Many rock shelters found by the archaeologists are close to the Narmada Valley. Sometimes, people had to live at factory sites for a longer span of time. These sites came to be known as habitation-cum-factory sites.



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Discovery of Fire

In the beginning, the human beings did not know how to make fire. The discovery of fire was accidental. The striking together of two pieces of stone known as 'flint' produced the spark. It burst into a flame coming in touch with dry leaves and twigs. The process was repeated and fire appeared again.

Gradually, humans learnt the various uses of fire. A fire could act as a source of comfort and protection. It could help people in keeping them warm, scaring away wild animals, baking pottery, lighting up dark caves and in roasting meat. Traces of ash found in Kurnool Caves suggest that people were acquainted with the use of fire.

Change in the Lifestyles

There, occurred significant changes in the climate of the world around 12,000 years ago. The temperature rose gradually and climate became warm and dry. Climatic changes brought about changes in flora and fauna. There was a considerable growth in the grasslands. Consequently, there was a significant increase in the number of animals like deer, antelope, goat, sheep and cattle that depended on grass for their survival.

The increase in the number of animals inspired humans to learn about their food habits and their breeding seasons. Perhaps, it helped people to think about the domestication of the animals. Fishing also became important.

It was during this time around that some grain bearing grasses like wheat, barley and rice started growing naturally in various parts of the subcontinent. People collected these grains as food and came to know where they grew and when they ripened. Probably, it inspired them to grow and cultivate on their own.

The Stone Age: Its Timeline

As it has already been discussed, the stone age was a sufficiently lengthy period. Hence, the scholars, to make its study easy and convenient, divided it into three periods namely, the Palaeolithic, the Mesolithic and the Neolithic. It should be kept in mind that the tools used by the early people are the main basis of this division.

1. Palaeolithic Age: The scholars term the earliest of human life on the Earth as the Palaeolithic Age. Its significant features are:

- The span of this period extends from about 2 million years ago to about 12,000 years ago.
- They made stone tools, mostly for hunting, such as double edge axes and spears.
- In addition to the hunting tools, they made other tools and ornaments, such as needles made from bones, figurines made from ivory, etc.

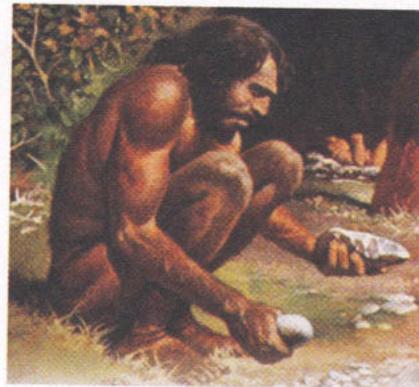


Fig. 2.11: Discovery of fire

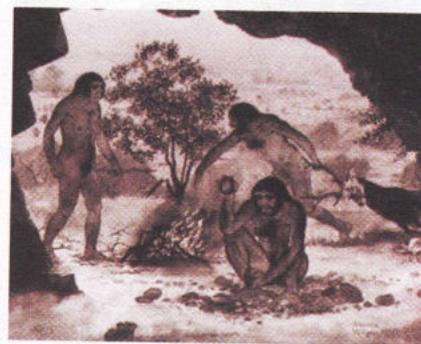


Fig. 2.12: Changed lifestyle after the discovery of fire



Do You Know

The words Palaeolithic, Mesolithic, Neolithic are derived from the Greek terms:

'Lith'	– Stone
'Palaeo'	– Old
'Meso'	– Middle
'Neo'	– New

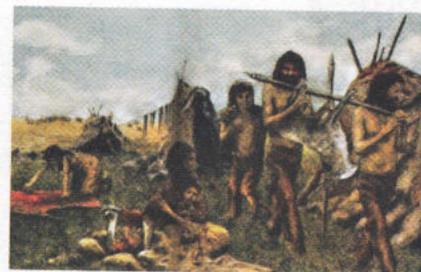


Fig. 2.13: People in Palaeolithic Age



- They also displayed their artistic side, by drawing pictures on the cave walls.
- The discovery of fire in this period gave a boost to their development.

The historians divided this age into three phases namely, the lower Palaeolithic Age, the Middle Palaeolithic Age and the Upper Palaeolithic Age on the basis of the changes that took place in the sphere of tools.

2. **Mesolithic Age** : The period that lies as a transitional phase between the Palaeolithic Age and the Neolithic Age, is known as the Mesolithic Age. Its significant features are :

- The span of this period extends from about 12,000 years ago to about 10,000 years ago.
- The phase witnessed a lot of environmental changes— the temperature rose gradually and the climate became warm and dry because of which the inhabitants moved closer to rivers and lakes.
- The technique of tool-making underwent a significant change. A wider use of small stones called microlith was made to make stone tools. However, the older varieties of tools also remained in use.

3. **Neolithic Age** : The period succeeding the Mesolithic Age which is distinguished by a major lifestyle change in the human history is known as the Neolithic Age. We will study more about this period in the next chapter.

WAS DIVISION OF LABOUR IN EXISTENCE?

We cannot say with certainty whether division of labour was in existence or not in the earliest societies. As it has already been discussed, the earliest people did a number of jobs such as hunting, gathering plant produce, making stone tools and painting cave walls, etc. Most of these jobs were done both by men and women together. Undeniably, some jobs were done only by women while some only by men. It is also possible that different practices might have been followed in different parts of the subcontinent.



Fig. 2.14: Small stone tools of Mesolithic Age



Our Heritage



Fig. 2.15: Animals in Rock Paintings

The Palaeolithic and the Mesolithic people were fond of painting. They painted on the walls of the caves. In almost all the rock-shelters inhabited by them, several rock paintings have been discovered. Some of the best examples have been found in Madhya Pradesh and Southern Uttar Pradesh. Bhimbetka in Madhya Pradesh has been declared as the world heritage site by UNESCO. In the rock paintings of Bhimbetka, animals like boar, buffalo, monkey and nilgai are frequently depicted and are drawn with great accuracy and skill. The humans are depicted in several activities such as dancing, hunting, running etc. Colours like deep red, green, white and yellow have been used in the paintings.



Hunsgi – An Important Site

Several early Palaeolithic sites were found at Hunsgi in the Southern Deccan in the valleys between the River Krishna and its tributary Bhima. A few of the Hunsgi sites are quite large. A large number of tools used for all sorts of activities have been found at some sites. These were perhaps habitation-cum-factory sites. Here, people frequently lived and made tools. Smaller sites in this area seem to have been temporary camping sites. Some of the sites were near springs. Tools were made of hard limestone. It was locally available.

Towards the end of the Mesolithic Age, significant climatic changes started occurring and the climate of Western and Southern Asia turned to be more or less similar as the climate of today. Consequently, the human life underwent significant changes which will be discussed in the next chapter.



Time Travel

Imagine that you live in a village during the Mesolithic Age. Write a diary entry about a typical day in your life.



In Other Lands

Rock painting was practised in other lands too, in the early stone age. Here is a picture of cave painting from France, a European country. This site was discovered by four school children more than a hundred years ago. According to our historians, such paintings were made during the period 20,000-10,000 years ago. The earliest people in France painted several wild animals such as wild horses, bison, reindeer, bear and woolly rhinoceros etc. Bright colours were used in paintings. Minerals like ochre or iron ore and charcoal were used in making colours.



Fig. 2.16: A painting found in France

Probably, these paintings were done on ceremonial occasions. It is possible that they were made for special rituals which were performed by hunters before going for hunting.



Dates to Remember

Event	Date
1. Significant changes occurred in the climate of the world	Around 12,000 years ago
2. The Mesolithic Age	Around 12,000-10,000 years ago
3. Cave paintings from France	Around 20,000-10,000 years ago





Let Us Recall

Stone Age: It refers to the first phase of human history. We come to know of it from the stone tools and implements of that period.

Hunter-gatherer: The earliest humans who did not know how to grow. They hunted wild animals and gathered fruits, seeds, leaves, etc., to satisfy their appetite.

Site: It refers to the place where remains of tools, pots, dwellings, etc., have been found.

Habitation sites: These are the places where early people lived.

Factory sites: These are the places where stones were found and where people used it for making tools.

Habitation-cum-Factory site: These are the sites where people lived for a longer time.

Core: It refers to the stone left after chipping.

Palaeolithic Age: It is the earliest phase of human life on the Earth.

Mesolithic Age: It refers to the period which intervenes as a transitional phase between the Palaeolithic Age and the Neolithic Age.

Neolithic Age: It is the period succeeding the Mesolithic Age which is distinguished by a major life style change in the human history.



A. Choose the correct answer.

- The study of stone age is classified into
 - two periods
 - three periods
 - four periods
 - five periods
- The early people made these tools in large numbers
 - tools made of wood
 - tools made of stone
 - tools made of bones
 - tools made of iron
- Which is the main basis of the division of historical periods?
 - discovery of fire
 - cultivation
 - domestication of animals
 - use of tools by early people
- Hunsgi was perhaps a—
 - factory site
 - habitation site
 - habitation-cum-factory site
 - religious site
- Habitation sites refer to those sites—
 - where the early humans lived
 - where the early humans used stone for making tools
 - where the early humans lived for a longer time
 - where the remains of tools were found



B. Answer the following questions.

1. What were the reasons which made the hunter-gatherers to move from place to place?
2. How did the earliest people arrange for their food?
3. Which types of tools did the earliest people use?
4. What do you mean by factory sites and habitation sites?
5. Was division of labour in existence in the earliest society?

C. Give reasons.

1. The people of the Early Stone Age have been described as hunter-gatherers.
2. The discovery of fire was accidental.

D. Fill in the blanks.

1. The people of Palaeolithic and Mesolithic Age were fond of _____.
2. Hunter-gatherers chose to live in _____ and _____.
3. The striking together of two pieces of the stone known as _____ produced spark.
4. The scholars term the earliest phase of human life on the Earth as the _____ age.
5. The _____ lived lives of nomads.

E. State whether the following statements are true or false.

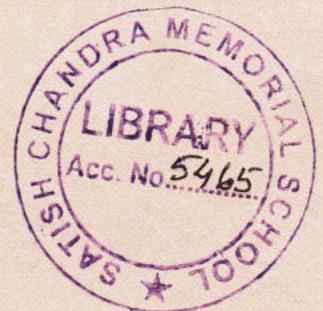
1. The Stone Age was sufficiently lengthy period.
2. The people of Neolithic Age have been described as hunter-gatherers.
3. Core tools were oval or pear-shaped.
4. The places where the early people lived are known as factory sites.
5. The discovery of fire was accidental.

1. Project Work

Prepare a list of the food items of the hunter-gatherers. Tick mark the items that we still use as food.

2. Group Discussion

Students can discuss in groups about the tools using in present time and compare them with the tools used in prehistoric times.



3



The First Farmers and Herders (From Gathering to Growing Food)

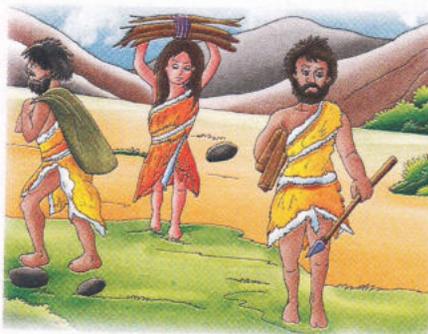


Fig. 3.1: Daily activities of people



Fig. 3.2: Dog was the first animal to be tamed by humans.



Fig. 3.3: Early people cultivating the land

Neolithic Age

After the Mesolithic Age, the people entered into a new age which is known as the Neolithic Age (New Stone Age). The most significant changes took place in human life during this age. People of this age learnt how to grow food. The shift from being **food-gatherers** to **food-growers** changed all the aspects of human life.

Main Features of the Neolithic

The significant features of the Neolithic Age are :

- The span of the period lasted from about 8000 BC till about 4000 BC.
- The stone tools of this period were sharper than the ones from the Mesolithic Period and were polished to add a shine to them.
- The Neolithic people transitioned from being nomads to settlers. They settled and created villages instead of just hunting and gathering.
- Humans of this period knew how to farm, grow wheat and make flour. In addition to wheat, they grew barley and lentils. The main domesticated animals were dog, goat, sheep, and cattle.
- In Neolithic period, humans developed ceramic making techniques. Pottery became common and trading started. Due to these developments, human population increased.

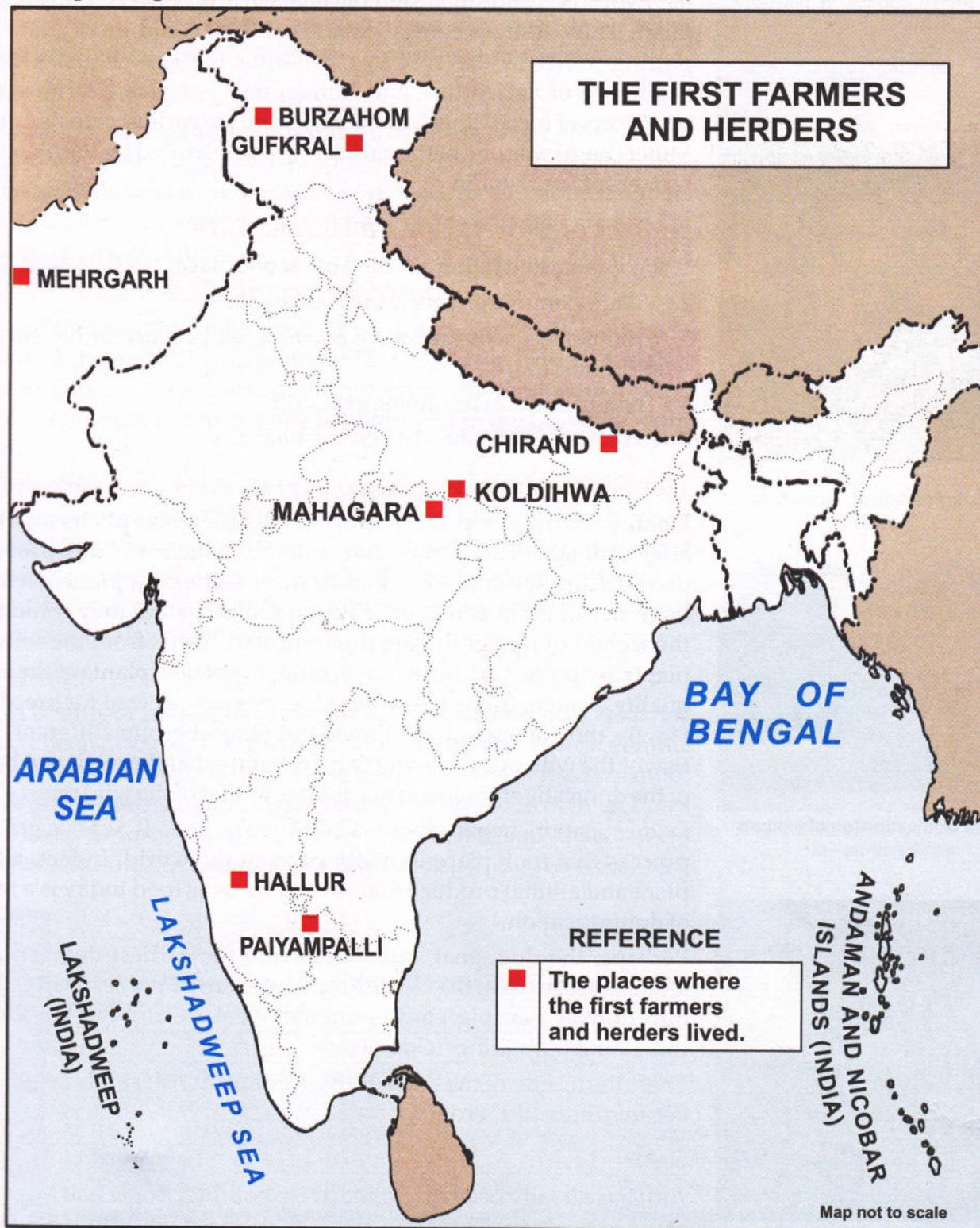
Early Humans Become Herders

With the passage of time, the people learnt that they could make some animals their friends with a little effort. Thus, women, men and children started catching and taming animals by leaving food for them near their shelters. The wild ancestor of the dog was the first animal to be tamed by man. Later, people started encouraging the tameable animals to come near their camps. It is worth mentioning that



animals like sheep, goat, cattle and also the pig lived in herds. The people started protecting these animals against the attacks of the wild animals. That's how, they became herders.

However, it should be kept in mind that changes did not occur simultaneously at all places. In some areas, people adopted farming and herding slowly and in other areas, they still continued to hunt and gather food. Moreover, in some cases, people continued to do the jobs of hunter-gatherers, herders and farmers, depending on the seasons.



Map 3.1: The first farmers and herders





Do You Know

The term 'neolithic' was suggested by Sir John Lubbock in his book called, Prehistoric times published in 1865.

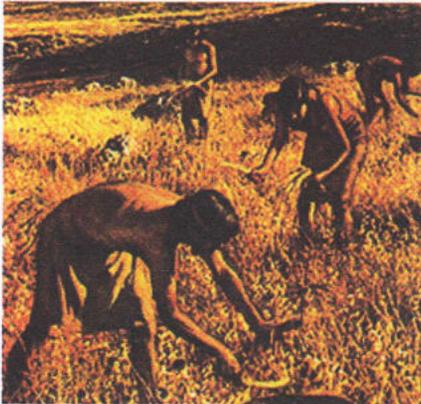


Fig. 3.4: Practice of agriculture

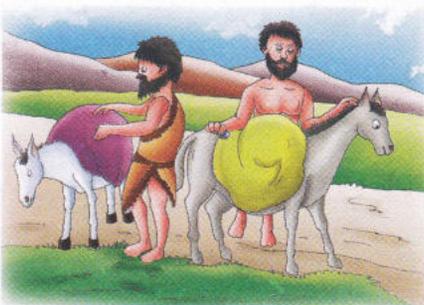


Fig. 3.5: Domestication of animals

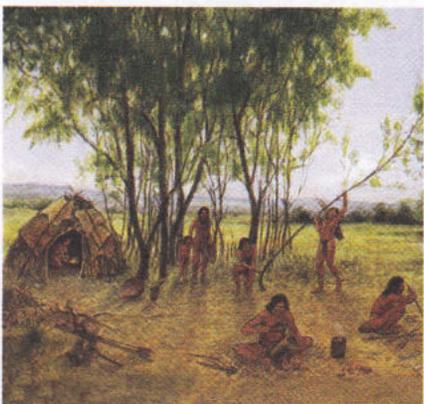


Fig. 3.6: Beginning of the settled life

Beginning of Cultivation

The humans of the Palaeolithic Age and the Mesolithic Age were hunters and gatherers. They lived nomadic lives. But towards the end of the Mesolithic Age, they accidentally came to know how to grow plants and grain. Seeds in discarded vegetable remains might have sprouted and suggested the magical link between the seed and plant. Thus, human beings learnt that they could grow plants by putting seeds in the soil and watering the soil. It marked the beginning of agriculture and human beings became farmers and producers of food. Wheat and barley were the earliest cereals grown. Millet (Ragi) was one of the earliest crops cultivated by the Neolithic farmers of South India.

Impact of Cultivation on Human Life

1. People started living a settled life at one place.
2. Village communities came into existence.
3. Commercial activities were encouraged because of the surplus production.
4. The agricultural technology took off.
5. Exploitation of natural resources began.

Domestication

Domestication is a process in which people grow plants and look after animals. The plants and animals which are not prone to diseases, are selected for domestication. Generally, plants yielding large size of grain and having strong stalks (so that they could bear the weight of ripe grain) are domesticated. Seeds from the selected plants are preserved and sown in order to get new plants of the same quality. Among the animals, tamable ones are selected for breeding. Slowly, the domesticated animals and plants become different from that of the wild ones. It is worth mentioning that the teeth and horns of the domestic animals are not as large as that of the wild ones.

Domestication began about 12,000 years ago. It was a gradual process that took place in many parts of the world. In fact, all the plant and animal produce that is used by us as food today is a result of domestication.

Perhaps, the dog, goat and sheep were the earliest domesticated animals. Very soon, the Neolithic people started domesticating cow, bull, donkey, hen, pig, etc. The animals were used for carrying heavy things and ploughing fields, etc.

Thus, the hunter of the Palaeolithic Age and the Mesolithic Age, now became the cattle herder.

Settled Life: A New Way of Life

As it has already been discussed, the Neolithic people had learnt the art of agriculture. Therefore, they felt the need of settling down at a place. They were supposed to look after their fields. The fields were



far-off from their caves and near the rivers because the land surrounding the rivers was particularly fertile and suitable for cultivation. After sowing they had to stay in the same place for a long time to look after the plants till the grain ripened. Therefore, they started living in huts near the fields.

As grain was to be used carefully, people started storing it for both food and seed. They started making large clay pots or weaving baskets or digging pits into the ground in order to store grain.

Storing Animals

We should know that animals multiply naturally. They also provide us milk and meat. Milk is an important part of our food. Thus, the reared animals can be used as a 'store' of food. Besides food, animals provide other things such as horns, bones and skins that are used in making a number of items.

Sites of the First Farmers and Herders

Some of the Neolithic sites found by the archaeologists have been shown on the map 2.1 in Chapter 2. These sites have been found all over the subcontinent. Some of the most important ones are located in the north-west, in present day Kashmir and in the East and South India.

The scientists study evidence of plants and animal bones to discover whether these sites belonged to **farmers** and **herders**. The farmers did the cultivation while the herders looked after the animals. It is interesting to note that remains of burnt grain have been found at some sites. Scientists can identify these grains and the bones of different animals as well.

Dwellings

Traces of huts or houses have been found from some sites. As it has already been discussed, with the advent of agriculture, the Neolithic people started living in huts near the fields. Huts were made of mud, wattle and daub (hut-building material) and branches of trees. Poles were used to form a frame to which branches and thatch were attached. The area of the huts was probably surrounded either by a



Fig. 3.7: Bones of animals



Fig. 3.8: Neolithic people lived in the pit-dwellings.

Our Heritage

Archaeological evidences of grain and bones of domesticated animals have been found from the sites which are located in present day India.

Grain and bones	Sites
Rice, fragmentary animal bones	Koldihwa (in modern Uttar Pradesh)
Wheat, green gram, barley, buffalo, ox	Chirand (in modern Bihar)
Rice, cattle, sheep, goat, (Hoof marks on clay surface)	Mahagara (in modern Uttar Pradesh)
Wheat, lentil	Gufkral (in modern Kashmir)
Wheat and lentil, dog, cattle, sheep, goat, buffalo	Burzahom (in modern Kashmir)
Black gram, millet, cattle, sheep, pig	Paiyampalli (in modern Andhra Pradesh)
Millet, cattle, sheep, goat, pig	Hallur (in modern Andhra Pradesh)





Time Travel

Imagine the dwellings of the Neolithic people lived and draw a few houses of this period.



Fig. 3.9: Making of tools and weapons

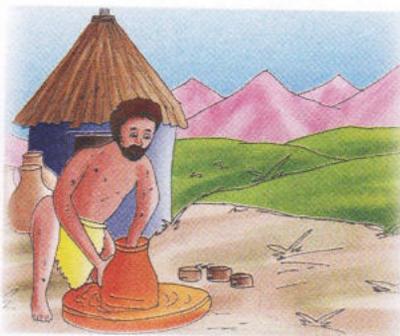


Fig. 3.10: Making of pots

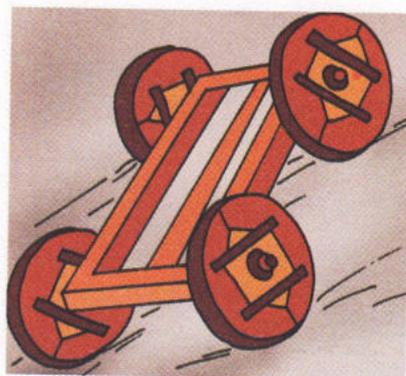


Fig. 3.11: Discovery of wheels

mud wall or by a fence of some prickly bush.

The Neolithic people at Burzahom in Kashmir lived in **pit-dwellings**. Pit-dwellings were dug into the ground, with steps leading into them. These may have provided shelter in cold weather. Most of the Neolithic people lived in circular or rectangular houses.

Food and Costumes

The Neolithic people started eating cooked cereals and meat. They liked to eat grains like rice, wheat and barley. Cooking hearths, both inside and outside the huts, have been found from many sites. It suggests that people, depending on the weather, could cook food either indoors or outdoors. Mortars and pestles were used for grinding grain and other plant produce.

The historians opine that the Neolithic people had started weaving coarse and rough cotton and woollen clothes. They were also aware of the art of dyeing and stitched their clothes with bone needles. They wore ornaments like necklaces, earrings, bangles, etc., made of shell and bone.

Polished Tools and Weapons

The Neolithic people used polished stone tools and weapons. These were made of harder stone. The blades were polished and designed to suit the new needs of the neolithic people. Weighted digging stick, sickle, axe, mortar and pestle, etc., were the main tools and objects used at the 'food-producing stage'. Besides stone, humans also used bone, wood and horns of deer to make tools. Needles and spindles were made of bones. However, it should be kept in mind that the tools of the Palaeolithic type also remained in use.

Pot-making: Invention of Wheel

Wheel was a revolutionary invention of the Neolithic Age. No one knows who discovered it or when or where, but it changed the very lifestyle of man. Man perhaps, got the idea while rolling logs of wood.

Impact of Wheel on Human Life

The invention of wheel made life easier and more comfortable in many ways:

1. It improved the making of pottery. Man started making beautiful clay ware on the wheel. They were sometimes decorated and were used for storing things. People started using pots for cooking foods.
2. The wheel helped man in making carts. It solved human's problem of carrying heavy loads.
3. It helped humans to travel easily from one place to another. It saved a lot of energy.
4. It provided a boost to commercial activities.
5. Wheel acted as a base for cotton spinning. People started spinning with the help of spindles.



Religious Beliefs

The Neolithic people had begun to nourish some religious beliefs. They were afraid of death and performed a large number of rites on the occasion of death. They believed that the dead must be provided with all amenities of life. Dead bodies were either buried or cremated. People believed in various kinds of good and bad omens.

Other Customs and Practices

Archaeology does not help us directly in knowing about other customs and practices of the Neolithic people. However, the scholars reached some conclusions after making a comparative study of the lives of present day farmers practising simple agriculture and the lives of herders. Most of these farmers and herders live in groups known as tribes. Scholars believe that some customs and practices followed by them may have been in existence earlier as well.

Case Studies of Neolithic Settlements

1. Mehrgarh

Mehrgarh is one of the earliest villages that we know about. It is located in fertile plain, near the Bolan Pass, one of the most important routes into Iran. The settlement came into existence at Mehrgarh about 8000 years ago. Archaeologists have found a number of evidences during its excavation. At this site, bones of sheep, goat, cattle, etc., were found, indicating that these were the commonly domesticated animals. Remains of square or rectangular houses have also been found in Mehrgarh. It was found out that each house had four or more compartments, out of which some of these were possibly used as granaries and store rooms. It has already been discussed that the Neolithic people believed that there was life in some form even after death. Hence, a number of rituals were performed after death. Dead persons were buried with due respect. Some burials found in Mehrgarh suggest that the dead people were buried with goats, perhaps with a belief that the goats would serve as food until they reach another world.

2. Daojali Hading

Daojali Hading is an important Neolithic site. It is located on the hills near the Brahmaputra Valley, close to the routes leading into China and Myanmar (Burma). The finds of stone tools from here, like axes, hoes, chisels, mortars and pestles suggest that people perhaps grew grain and prepared food from it. Tools made of fossil wood (ancient wood that has hardened into stone) and handmade grey to dull red cord-marked pottery have also been found here. Jadeite, a stone, perhaps brought from China, has also



Fig. 3.12: Neolithic skeletons



Fig. 3.13: An archaeologist at Mehrgarh



Fig. 3.14: A house found in Mehrgarh

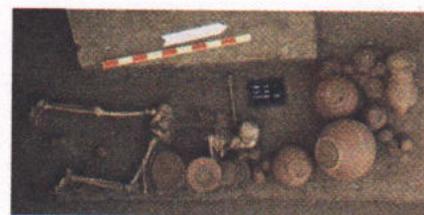


Fig. 3.15: Burials found in Mehrgarh



Fig. 3.16: Tools found from Daojali





In Other Lands

Catal Huyuk, one of the most renowned Neolithic sites, was found in Turkey. Evidences of some things brought from far away areas like flint from Syria, shell from the Mediterranean Sea, and cowries from the Red Sea have been found in Catal Huyuk.

It suggests that these things were in use in the settlement. It should be kept in mind that most things would have been carried on the backs of animals like cattle or by people as there were no carts.



Fig. 3.17 : Catal Huyuk



Dates to Remember

	Event	Date
1.	Beginning of Domestication	Around 12,000 years ago
2.	Beginning of Settlement at Mehrgarh	Around 8,000 years ago



Let Us Recall

Neolithic Age: The word 'Neo' means new and 'Lithos' means stone. Hence, the term Neolithic Age means New Stone Age.

Domestication: It refers to a process in which people grow plants and look after animals.

Herder: It is a person who looks after the herd of animals.

Farmer: It is a person who does the cultivation. When the early humans learnt the art of cultivation, they became farmers.

Pit-dwellings: These were dug into the ground with steps leading into them.

Burial: It refers to a funeral in which the dead body is buried.





EXERCISES

A. Choose the correct answer.

- The first farmers and herders became food-growers in
 - Mesolithic Age
 - Paleolithic Age
 - Neolithic Age
 - Chalcolithic Age
- Which was the first crop grown by the Neolithic farmers?
 - millet
 - barley
 - wheat
 - maize
- Ruins of square and rectangular houses have been found in
 - Daojali
 - Mehrgarh
 - Koldihwa
 - Hallur
- Stone tools like axes, hoes, chisels, mortars and pestles have been found in
 - Mehrgarh
 - Daojali
 - Koldihwa
 - Chirand
- Which one of these is the main revolutionary inventions of the Neolithic age?
 - invention of pottery
 - invention of clay tools
 - invention of wheel
 - invention of stone tools
- Identify the characteristic feature of a tribe from the following.
 - There is no sharp differences between poor and rich people.
 - The tribes don't have their own dieties.
 - Their families are not related to each other.
 - The old and experienced people are not regarded as their leaders.
- Jadeite, a stone, has been discovered from the excavation brought from
 - India
 - America
 - China
 - Afghanistan

B. Answer the following questions.

- How did the early humans learn the art of cultivation? Assess the impact of cultivation on humans.
- Why do the people engaged in food producing, have to stay in the same place for a long time?
- Throw light on the main sites of the first farmers and herders.
- What do you know about the dwellings of the Neolithic people?
- How did the invention of wheel benefit the humans?



6. In which three ways, the lives of herders and farmers were different from that of the hunter-gatherers?
7. On the following outline map of India, locate any five places where first farmers and herders lived.



C. Give reasons:

1. Human beings accidentally came to know how to grow plants and grain.
2. Dead bodies of Neolithic people were buried or cremated. What is the reason?



unter-
rders

D. Fill in the blanks.

1. The most significant changes took place in human life during _____ age.
2. The process in which people grow plants and look after the animals is known as _____.
3. Domestication began about _____ years ago.
4. _____ and pestles were used for grinding grain and other plant produce.
5. _____ provided shelter in cold weather.
6. _____ have found a number of evidences during its excavation.

E. State whether the following statements are true or false.

1. Wheat and barley had been found in Mehrgarh.
2. Millets have been found at Hallur.
3. People in Burzahom lived in rectangular houses.
4. Hoof marks on clay surface have been found in Mehrgarh.
5. Chirand is a site in Kashmir.
6. Daojali is located on the mountains near Kaveri valley.

1. Individual Project.

- (a) Make a list of the cereals grown by the Neolithic people.
- (b) Draw pictures of at least four animals domesticated by the Neolithic people.



4



The First (Earliest) Cities

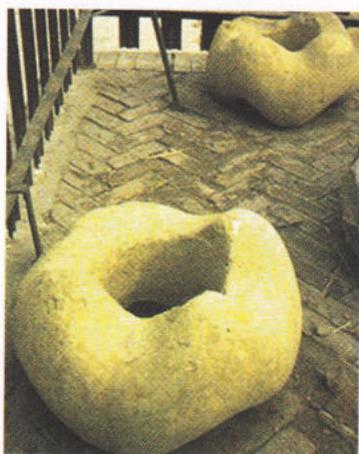


Fig. 4.1: Harappan Ring Stones



Fig. 4.2: A pot found from Rakhi Garhi



Fig. 4.3: Remains at Mohenjo-daro in Larakana district

By the end of the Neolithic period, human beings started getting familiar with metals. In view of the historians, the first metal ever used was copper. With the passage of time, human beings were successful in making bronze by mixing copper and tin. This success of humans marked the beginning of the **Bronze Age**. The discovery of bronze changed the very lifestyle of human beings. The village settlements along the riverbanks became permanent and smaller villages grew into larger ones.

With the growth of population, people's needs expanded further and larger villages started growing into towns and cities. The rise of cities in the Bronze Age marked the beginning of a civilisation. **Civilisation** is that stage of human development which is considered the most advanced stage of social development and organisation.

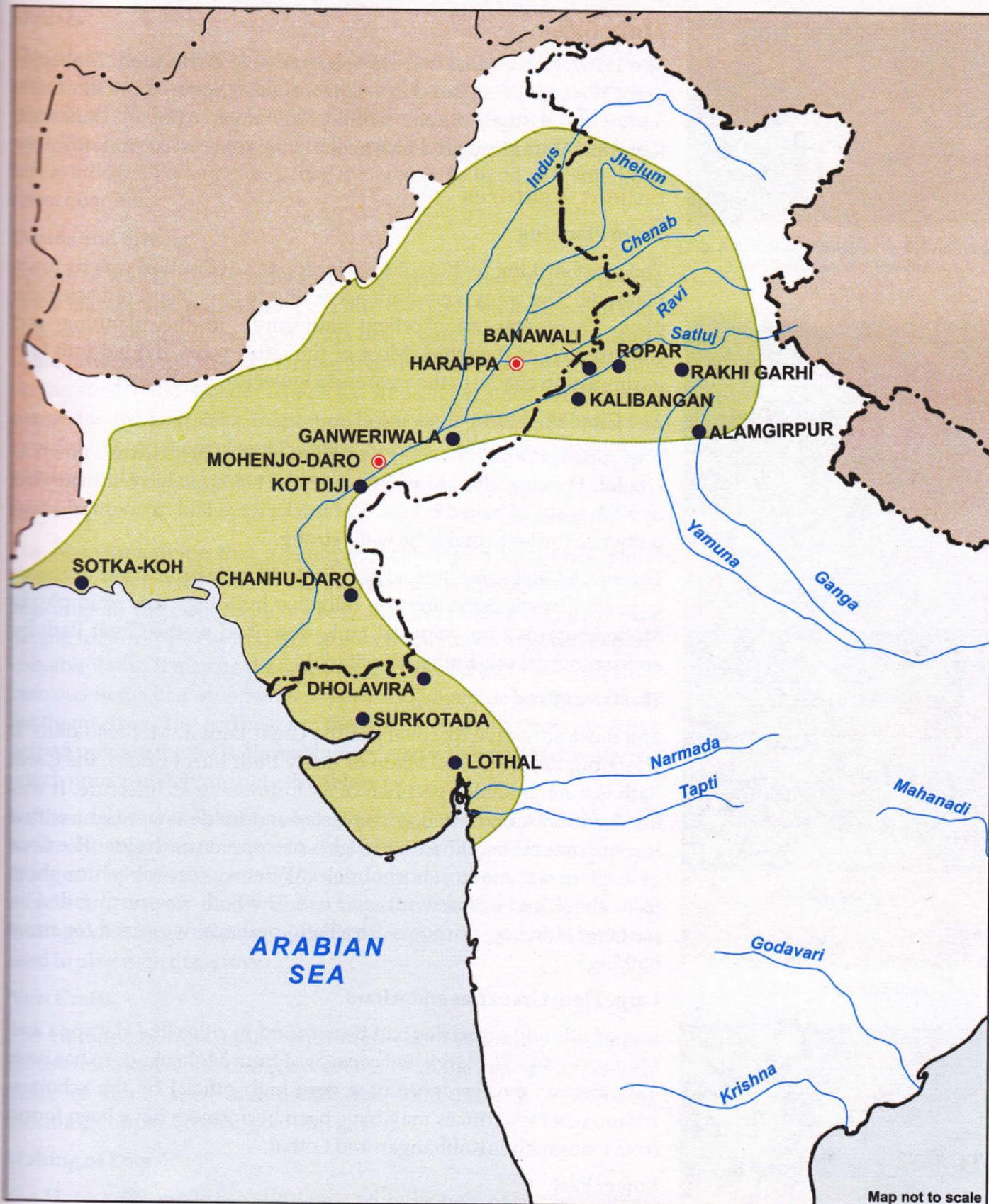
River Valley Civilisations

It is worth mentioning that the earliest cities came into existence along river valleys. It was because of the abundance of water, fertile land and river transport. That is why the first civilisations developing in Africa and Asia are known as the **River Valley Civilisations**.

The Harappan Civilisation

In India, the first river valley civilisation developed in Harappa and its surroundings in the valley of the River Indus. Hence, it is called the Harappan Civilisation or Indus Valley Civilisation. It developed around 4700 years ago. Harappa (now in Pakistan) on River Ravi, was one of the oldest cities discovered in the subcontinent. It was discovered by R.B. Dayaram Sahni, an Indian archaeologist. The very next year, in 1922, R.D. Banerjee carried on the excavations in the Larkana district of Sindh province (now in Pakistan) and discovered the ancient remains of the pre-historic city of Mohenjo-daro. Mohenjo-daro literally means, 'mound of dead'. Gradually, many other sites started coming into light. Near about 1400 sites have been excavated in Pakistan and India. Of these, 925 sites are located in India and 475 are in Pakistan.





Map 4.1: The Earliest Cities in the Subcontinent





Fig. 4.4: Harappan Well



Fig. 4.5: Harappan Town Layout



Fig. 4.6: Citadel



Fig. 4.7: The Great Bath at Mohenjo-daro

Main Sites

The Harappan Civilisation was an extensive civilisation. Mohenjo-daro, Harappa, Chanhudaro, Ganweriwala, Sotkukoh, Dholavira, Surkotada, Lothal, Rakhi Garhi, Kalibangan, Ropar, Banawali, Rangpur, Alamgirpur and Bhagwanpur are some of its main sites.

Salient Features

Town Planning

The most striking feature of the Harappan Civilisation was its town planning. The cities were built according to a well laid out scientific plan. There was an excellent uniformity in the planning and construction of the cities. Most of the cities were divided into two parts – a high citadel in the west and a lower town in the east.

The Citadel

The upper part built on a high podium of mud bricks was known as **citadel**. The citadels of Mohenjo-daro and Harappa were surrounded by high walls of baked bricks. The bricks were laid in an interlocked pattern, in order to make the walls strong.

The citadel had some special buildings, like, the granaries, the more important workshops and the religious buildings. For example, in Mohenjo-daro, a very special tank, described as the Great Bath by archaeologists, was built in the citadel.

The Great Bath

The most attractive discovery is the Great Bath at Mohenjo-daro. It was a big bathing tank. Made of finely built burnt bricks, the Great Bath is a remarkable specimen of an impressive architecture. It was lined with bricks, coated with plaster and made water-tight with a layer of natural tar. It had two flights of steps, on each side. The floor of the Bath was made of burnt bricks. Water was probably brought in from a well and drained out after use. The Bath was surrounded by porticoes and sets of rooms. The Bath, perhaps, was used for ritual bathings.

Large Hall, Granaries and Altars

Large halls and **granaries** had been found in cities like Harappa and Mohenjo-daro. The large hall excavated from Mohenjo-daro has been identified as the residence of a very high official by the scholars. Altars, where sacrifices may have been performed, have been found from cities such as Kalibangan and Lothal.

Lower Part

The lower part or the lower town located outside the citadel, was much larger. Here, the people like, the petty merchants, craftsmen and labourers lived and carried on their professional work.

Houses

The houses were both of large and small sizes. Generally, they were either one or two storeys high, with rooms built around a courtyard. Almost all the large houses had a kitchen, a bathroom, a toilet and a well. The houses were built on both sides of the street and they had a few windows. Some people, like, the labourers lived in a small one room quarters.

Drains and Streets

System of well laid out drains and streets was an outstanding feature of the Harappan Civilisation. The cities had covered drains, carefully laid out in straight lines. Each drain had a gentle slope so that water could flow through it easily. Drains in houses were connected to those on the streets and smaller drains led into bigger ones. Drains were covered with stone slabs. Inspection holes were provided at intervals in order to keep them clean. Perhaps, houses, drains and streets were planned and built at the same time.

City Life

The historians opine that a Harappan city was a very busy place. Probably, there were rulers who planned the construction of special buildings in the city. There is every likelihood that the rulers sent people to far-off places in order to get costly stones, metal and other valuable items. It may be the case that the rulers used to keep the most precious items like ornaments of gold and silver, or beautiful beads for themselves. The **scribes**, *i.e.*, the people knowing how to write, helped prepare the seals. Probably, they also wrote on other materials which unfortunately are not available now.

Besides, there were craftspersons, men and women who made all kinds of things either in their own houses or in special workshops. Trade and commerce was in a flourishing condition. The merchants travelled to far-off places and returned with raw materials. The findings of a large number of terracotta toys, suggest that children used to play with these toys.

New Crafts

The Harappans were gifted with high talent regarding crafts and industries. Most of the things excavated from the Harappan sites are made of stone, shell and **metal** (the solid mineral substances), including copper, bronze, gold and silver.

Making of Pots

The Harappans made beautiful pots with the help of potter's wheel. Pots were painted in black on bright red surface with some geometric designs, plants, animals, etc.

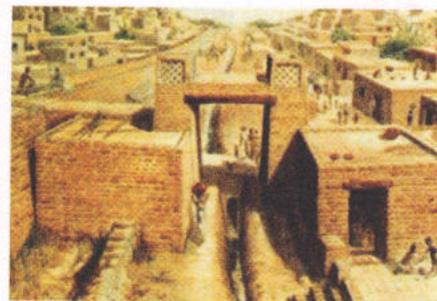


Fig. 4.8: Ancient remains of the houses of Harappan Civilisation

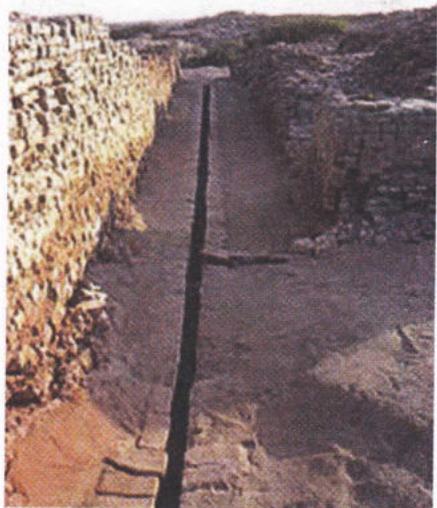


Fig. 4.9: Drains and Streets



Fig. 4.10: Terracotta toys



Fig. 4.11: Pots made by Harappans





Fig. 4.12: Ornaments



Fig. 4.13: One-horned animal on seal



Fig. 4.14: Bronze figurine of a dancing girl

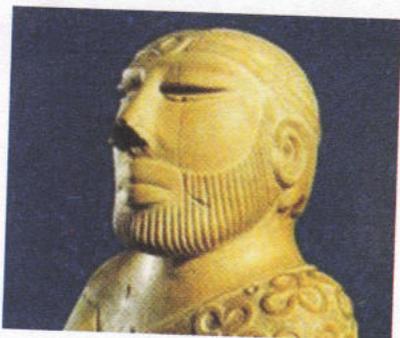


Fig. 4.15: Sculpture of a bearded head



Time Travel

Imagine that you are a trader living during the time of the Indus Valley Civilisation. Draw a sketch of an Indus seal and write few lines on the things that you traded.

Manufacturing of Cloth

Manufacturing of cloth was a significant occupation of the Harappans. Cotton was perhaps grown at Mehrgarh about 7000 years ago. From Mohenjo-daro, some pieces of cloth attached to the lid of a silver vase and some copper objects have been found. A large number of spindle whorls used in spinning thread have been discovered from various sites which proves that they knew spinning and weaving. The spindles were made of terracotta and faience. Beautiful embroidery was done on garments. A stone statue of a man, discovered from Mohenjo-daro, shows him wearing an embroidered garment.

Metal Casting

Copper and bronze were used to make tools, weapons, ornaments and vessels. However, the metal vessels were not in common use as they were very expensive. The bronze model of a cart and a bronze statuette dancing girl, are some of the fine examples of their mastery in the art of bronze casting.

Making of Ornaments

Gold and silver were used in making ornaments and vessels. Beads making was a favourite occupation of the Harappans. The artisans made beautiful ornaments of shells. Both men and women were fond of ornaments. Men wore armlets and women used bracelets, ear rings and necklaces, etc., of different shapes and designs.

Making of Seals

The Harappans also made seals out of stone. Flat and rectangular seals have been found in large numbers at Mohenjo-daro. The seals usually have a picture of an animal like a bull, or one-horned animal on them.

Sculpture

The Harappans made beautiful sculptures of clay, stones and bronze. The bronze figurine of a dancing girl and a stone sculpture of a bearded head are some of the well-known specimens of Harappan art.

Weights and Measures

Weights and measures have been found from various sites. Both heavy and small weights were in use. They were made of chert (a kind of stone), jasper and agate. Sticks inscribed with measure marks have been found at Harappan sites. One of these is made of bronze.

The Art of Writing: Script of the Harappans

The Harappan people knew the art of writing. Their script is pictographic and each sign stands for a sound, abstract or object. We should know that **pictographs** are the picture like signs used as script by the Harappans. Dr. S.R. Rao in his research work on the development of the Indus Script holds that the Indus Valley people

used phonetic script and in the late Harappan period, the script evolved itself to an alphabetic pattern. Numerals were depicted through vertical lines. However, the Indus Script remains puzzle to the historians as it has not been deciphered till now.

Existence of the Specialists

The historians opine that the various beautiful items produced by the Harappans were, perhaps, the work of the **specialists**. A specialist is a person who is an expert in a particular branch of work. Probably, some men and women may have been specialists of different arts, such as, of cutting stone, polishing beads or carving seals.

Faience

Faience is not a naturally found material. It is produced artificially. Sand or powdered quartz was shaped into an object with the help of gum. The object was then glazed usually in blue or sea-green colours. It resulted in a shiny and glassy surface. Generally, beads, bangles, earrings and tiny vessels were made of faience.

In Search of Raw Materials

The substances either found naturally like wood or ores of metals, or produced by farmers or herders, are known as **raw materials**. Raw materials are needed in order to produce finished goods. For example, cotton produced by the farmers, is a raw material. It is processed to make cloth. Some of the raw materials needed by the Harappans were available locally. But the raw materials like, copper, tin, gold, silver and precious stones had to be brought from far-off places.

The Harappans perhaps got copper from Rajasthan and even from Oman in West Asia. They procured tin from Afghanistan and Iran. It was mixed with copper to produce bronze. They got gold from Karnataka and valuable stones from Gujarat, Iran and Afghanistan.

Food and Agriculture

The food of the Harappans included wheat, barley, rice, millets, pulses, fruits, vegetables, milk, ghee and meat. They ate meat of deer, goat, sheep, crocodile, etc. and consumed fish and eggs too. The discovery of rubbing stone querns from Harappan sites, suggest that the Harappans used a number of spices to make their food tasty and interesting.

Agriculture was the main occupation of the people living in the countryside. They grew crops and reared animals. The farmers and herders supplied food to craftsmen, scribes and rulers living in the cities. The remains found from the excavations of various sites, suggest that the Harappans grew wheat, barley, pulses, peas, rice, sesame, linseed and mustard. Cotton was also an important product of the Harappan Civilisation. The historians opine that the Harappans were the first to grow cotton. They also collected fruits, caught fish and hunted wild animals like the antelope.



Fig. 4.16: Faience



Fig. 4.17: Harappan Script Sign



Fig. 4.18: Remains of a Harappan Animal



Do You Know

Cotton was first used by Harappan people because it was first produced in the Sindh area. Greeks called it Sindon, derived from the word Sindh.



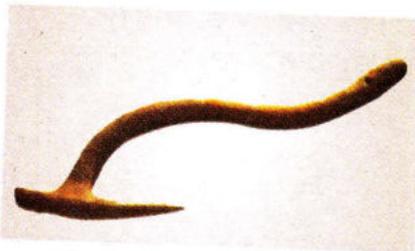


Fig. 4.19: A wooden plough

Wooden **plough** was used for tilling fields. Toy models of plough have been found from some sites. Harvesting of crops was done with copper sickles and stone blades. As the area did not receive heavy rainfall, channels of water might have been taken from the rivers in order to **irrigate** the fields.

Domestication of Animals

The Harappans domesticated bulls, cows, buffaloes, goats, sheep, pigs, etc. Dogs and cats too were domesticated. It is not certain, whether they knew of the horse or not. Water and pastures were available around settlements. But they had to take large herds of animals to far-off places in the dry summer months in search of grass and water.

Case Study: Harappan Towns in Gujarat

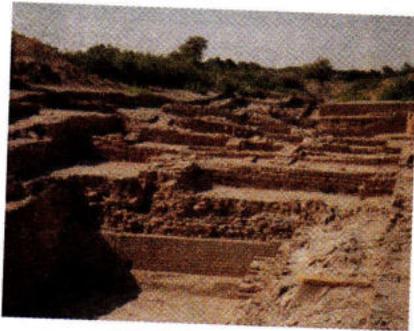


Fig. 4.20: Dholavira

1. Dholavira: It is located on Khadir Bet in the Great Rann of Kutch. It is one of the two largest Harappan settlements in India.* It had freshwater and fertile soil. Unlike other Harappan towns, Dholavira was divided into three principal divisions. Each division was surrounded with massive stone walls with entrances through gateways. The settlement had a large open area. Probably, public ceremonies were held here. Another extraordinary find from Dholavira is a large wooden plank with large letters of the Harappan script. They were carved out of white stone and perhaps inlaid in wood. Such a large specimen of writing has not yet been found from any other city of the Harappan Civilisation.

2. Lothal: It is situated beside a tributary of the Sabarmati in Gujarat, close to the Gulf of Khambhat. It was discovered by S.R. Rao in 1955. It was an important trading and manufacturing centre of the Harappan Civilisation. It was located near the areas that were rich in raw materials such as semi-precious stones. It was a great centre of stone, shell and metal manufactures. A storehouse having a number of seals and sealings (the impression of seals on clay) has also been found in the city. Another important discovery from Lothal is a baked brick huge tank. It has been identified as a 'Dockyard'. It was connected by channels to the neighbouring estuary. Here, boats and ships came in from the sea and through the river channel. Goods were perhaps loaded and unloaded here.

Probably, Lothal was an important centre of bead-making industry. Pieces of stone, half-made beads, tools for bead-making and finished beads have been found in large number in a building. It suggests that the building was perhaps, a workshop for making beads.



Fig. 4.21: Lothal

* The other being Rakhi Garhi in Haryana.

Seals and Sealings

A large number of seals and sealings have been found from various Harappan sites. Probably, seals were used for stamping the bags and pockets of goods being sent from one place to another. A layer of wet clay was applied on the knot of a closed or tied bag and a seal was pressed on it. The impression of the seal is known as sealing. In case, the sealing was undamaged, one could be sure that the goods had reached safely. Seals are in use even at present.

Religious Life

Nothing very definite can be said about the religion of the Harappan people. The evidences found from various Harappan sites suggest that the Harappan people were idol worshippers. They perhaps worshipped Mother Goddess and a three-faced male deity who has been identified by John Marshall as Pashupati Shiva. The scholars opine that tree worship, animal worship and fire worship was perhaps also in vogue in the Harappan society.

Decline of the Civilisation

We cannot say with certainty as to how and when the Harappan Civilisation met its decline. But it should be kept in mind that the civilisation did not meet a sudden end. It declined gradually. Around 3900 years ago, people stopped living in many of the cities. Writings, seals and weights were no longer in use. Raw materials brought from far-off places became rare. The archaeological remains discovered from Mohenjo-daro reveal that garbage piled up on the streets, the drainage system broke down, and new less impressive houses came to be built even over the streets.

Thus, the factors responsible for the decline of the Harappan civilisation can be studied as under:

1. The Indus River kept shifting its course. Consequently, the areas whose fertility and prosperity depended on riverwater, started becoming desert and barren.
2. According to some scholars, the civilisation declined because of deforestation. This might have happened because of the requirement of fuel for baking bricks and for smelting copper ores. Moreover, the green cover might have been destroyed because of grazing by large herds of cattle, sheep and goat.
3. The area was heavily flooded frequently. It was ravaged by earthquakes as well. Thus, the cities may have been destroyed by floods and earthquakes.
4. There may have been conflicts between the city people and village people which caused the decline of the civilisation.
5. The civilisation got its prosperity from trade. With a decline in trade, the cities declined.



Fig. 4.22: The Seals of Harappan



Fig. 4.23 : Pashupati Shiva

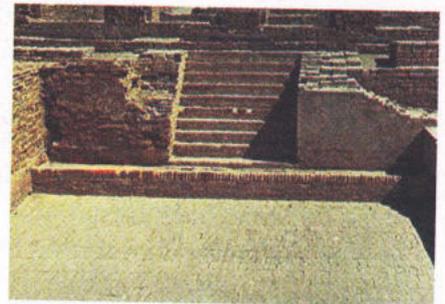


Fig. 4.24 : Granary at Mohenjo-daro



Fig. 4.25 : Ruins of a Harappan Village





Fig. 4.26: Ruins of the Harappan Civilisation

6. According to some scholars, the civilisation came to an end because its rulers lost their control. Sites in Sindh and West Punjab (now Pakistan) were abandoned whereas many people settled down into newer, smaller settlements to the east and the south. New cities came into emergence about 1400 years later.
7. Some scholars believe that Barbarian invasions caused the downfall of the civilisation. The cities may have been attacked and the inhabitants could not defend themselves.

Thus, a number of factors caused the decline of the Harappan Civilisation.



In Other Lands

Egypt, traditionally known as 'Gift of the Nile', occupies North-East Africa. Its recorded history goes back to more than 5000 BC.

Egypt was ruled by kings during this span of time. The king was regarded as god and was given the title of 'Pharaoh'. The Egyptian kings used to send their armies to far-off lands in order to get gold, silver, ivory, timber and precious stones. They also built their colossal tombs, known as 'Pyramids'.

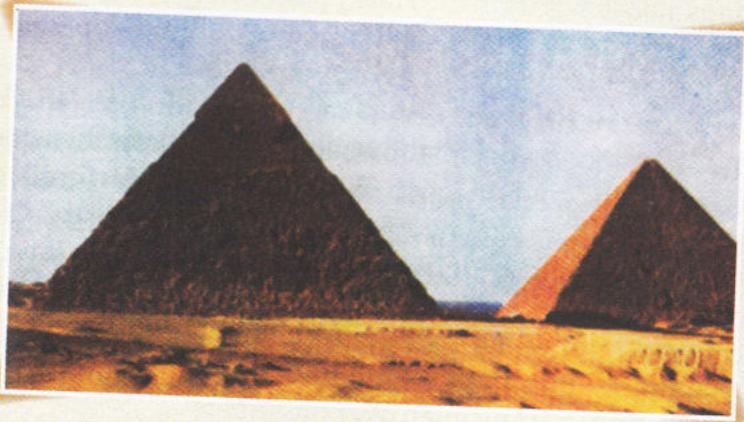


Fig. 4.27 : Pyramids of Egypt

The bodies of the deceased kings with their precious belongings were buried in the Pyramids. You should know that these carefully preserved bodies are known as 'mummies'. The objects buried with them included food and drink, ornaments, clothes, utensils, musical instruments, weapons and animals etc. Sometimes, even serving men and women were buried with them. The Pyramids occupy a significant place amongst the most elaborate burials known in the history of world. They show the engineering skill of the Egyptians. The Great Pyramid at Gizeh was built by the Pharaoh Khufu.



Dates to Remember

Event	Date
1. Cotton cultivation at Mehrgarh	Around 7000 years ago
2. Beginning of cities	Around 4700 years ago
3. The process of the decline of the cities started	Around 3900 years ago
4. Other cities emerged	Around 2500 years ago



Let Us Recall

Bronze Age: It is the period when human beings learnt to make bronze by mixing tin and copper.

Civilisation: It is that a stage of human development which is considered the most advanced stage of social development and organisation.

River Valley Civilisations: These were the civilisations which came into existence along river valleys.

Mohenjo-daro: It literally means, 'mound of dead'.

Citadel: It is the upper part, built on a high podium of mud bricks.

Granary: It is a storehouse of grains.

Scribe: A person who knew how to write.

Craftsperson: A skilled person who makes beautiful things by hand.

Metal: A type of solid mineral substance like tin, copper, bronze, gold, silver, etc.

Sealing: It is the impression of the seal.

Specialist: A person who is an expert in a particular branch of work.

Raw materials: The substances either found naturally or produced by farmers or herders.

Plough: It is a farming implement for tilling fields.

Irrigation: It is an act of supplying water to land or crops especially by means of specially constructed channels.



A. Choose the correct answer.

- The most attractive discovery at Mohenjo-daro was
 - town planning
 - the Citadel
 - Great Bath
 - granaries
- The Harappan people made beautiful pots by
 - stone
 - metals
 - shells
 - potter's wheel
- One of the significant occupations of the Harappans was
 - agriculture
 - mining
 - manufacturing cloth
 - sculpture
- In which place semi-precious stones were found?
 - Lothal
 - Kalibangan
 - Dholavira
 - Ropar
- Lothal was an important trading and manufacturing centre of the
 - Greek Civilisation
 - Chinese Civilisation
 - Harappan Civilisation
 - Egyptian Civilisation
- Point out a place which is located on Khadir Bet in the Rann of Kutch.
 - Ropar
 - Banawali
 - Rangpur
 - Dholavira



B. Answer the following questions.

1. What were the main features of the town planning of the Harappan Civilisation?
2. How do you find that the life of farmers and herders who supplied food to the Harappan cities was different from that of the farmers and herders of the Neolithic age?
3. What do you know about the food of the Harappans?
4. How do you know that the Harappan people were skilled in the art of weaving?
5. Throw light on the causes of decline of the Harappan Civilisation.

C. State whether the following statements are true or false.

1. The Harappan Civilisation came into existence in the Iron Age.
2. In India, the first river valley civilisation developed in Harappa and its surroundings in the valley of the River Indus.
3. There was no uniformity in the planning and construction of the cities.
4. The Great Bath has been discovered at Harappa.
5. The Harappan script is pictographic.

D. Match the following.

Column A

1. Gold
2. Copper
3. Precious stones
4. Tin
5. Great Bath

Column B

- (a) Afghanistan
- (b) Dockyard
- (c) Karnataka
- (d) Mohenjodaro
- (e) Rajasthan

E. Fill in the blanks.

1. By the end of the _____ period, man started getting familiar with metals.
2. The rise of cities in the _____ age marked the beginning of _____.
3. Granaries and large halls had been found in _____ and _____.
4. _____ and _____ were used to make tools, weapons, ornaments and vessels.
5. _____ is situated beside a tributary of the _____ in Gujarat.

1. Group Discussion

Students can discuss in groups about the animals that were domesticated by the Harappans.

2. Individual Project

Make a model of a plough with Plaster of Paris.

5



Different Ways of Life (What Books and Burials tell us)

The Aryans

The word 'Aryan' (or Arya) is derived from the Sanskrit language which means 'superior, noble and exalted'. The Aryans were tall, fair-complexioned and attractive in appearance. Their manners were highly civilised and cultured and they gave birth to a superior and great civilisation. As regards to the original home of the Aryans, there is much controversy among the scholars. Some scholars believe that they were the original inhabitants of India whereas some others suggest that they came from outside. The most ancient period of the Indo-Aryans extended from around 1500 BC to 600 BC. As most of the information regarding this period comes from the Vedic text, it is popularly known as the Vedic Age. The civilisation and culture during this age, came to be known as the Vedic Civilisation.

The Vedas: One of the Oldest Books in the World

The word 'Veda' means knowledge and wisdom. There is a collection of hymns, prayers, charms and sacrificial formulae, etc., in the Vedas. The Vedas are four in number: the Rigveda, the Samveda, the Yajurveda and the Atharvaveda. Of these, the Rigveda is the oldest and the most significant. It was composed about 3500 years ago. It has 1028 hymns, known as **sukta** or 'well-said'. These hymns are written in praise of various gods and goddesses. Three gods, *i.e.*, **Agni**, the god of fire; **Indra**, the warrior god; and **Soma**, a plant from which a special drink was prepared, have been held in great esteem in Rigveda.

Sages composed these hymns. Priests used to teach students to recite and memorise hymns with great care. Men composed, taught and learnt most of the hymns. Some hymns were composed by women also. The language of Rigveda is old or Vedic Sanskrit. It is different from the Sanskrit which is taught in the schools nowadays.

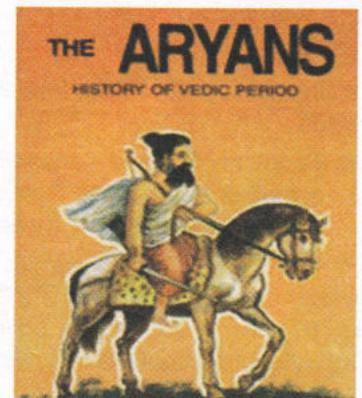


Fig. 5.1: A book written about the Aryans



Fig. 5.2 : The four Vedas



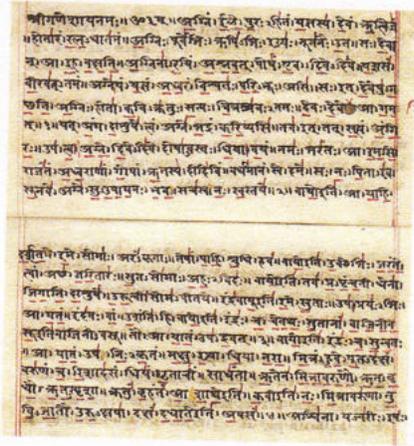


Fig. 5.3: Writings of Rigveda

Sanskrit and Other Languages

Sanskrit belongs to a family of languages termed as Indo-European. Indian languages like Assamese, Gujarati, Hindi, Kashmiri and Sindhi also are parts of this family. European languages like English, French, German, Greek, Italian and Spanish also belong to this family. As they originally have words in common, they are termed as a family. For example, the words, 'matr' (Sanskrit), 'ma' (Hindi), 'mother' (English) and 'madar' (Persian) are quite similar.

However, a variety of languages are used in the subcontinent. For example, Tamil, Telugu, Kannada and Malayalam belong to the Dravidian family. Languages used in the north-east belong to the Tibeto-Burman family. Similarly, languages spoken in Jharkhand and parts of Central India are a part of the Austro-Asiatic family.

Today, written and printed books are in use. But it was not so during the Vedic Age. Rigveda was recited and heard rather than read. It was printed less than two centuries ago. It is worth mentioning that a manuscript of the Rigveda, on birch bark was found in Kashmir. It was used to prepare one of the earliest printed texts of the Rigveda.

An English translation of Rigveda was also prepared. You can find it in a library in Pune (in Maharashtra) at present.

How Does the Rigveda Help in Reconstructing History?

We already know that the archaeologists depend particularly on material remains to find out the past. However, the historians examine written sources as well for the same purpose. The Rigveda throws an important light on the political, social, economic and religious conditions of the early Vedic period.

It is worth mentioning that some of the hymns of the Rigveda are in the form of dialogues. Here is a part of one such hymn, a dialogue between a popular sage Vishwamitra and the Rivers Beas and Sutlej. These rivers were worshipped as goddesses.

Vishwamitra and the Rivers

Vishwamitra : O rivers, come down from the mountains like two swift horses, like two shining cows that lick their calves.

You move like chariots to the sea, through the power of Indra. You are full of water and wish to unite with one another.

The rivers : We, who are full of water, move along the path the gods have made for us. Once we start flowing, we cannot be stopped. Why do you pray to us, O sage?

Vishwamitra : O sisters, please listen to me, the singer who has come from a distance with his chariots and carts. Let your water not rise above our axles, so that we can cross safely.

The rivers : We will listen to your prayers so that you can cross safely.



Time Travel

Read the hymn given below, from the Rigveda :

"I am a poet, my father is a physician and my mother is a grinder. Earning livelihood through different means, we live together."

Travel to the Rig Vedic Age when it was written and make some interperations about the Rig Vedic class system.

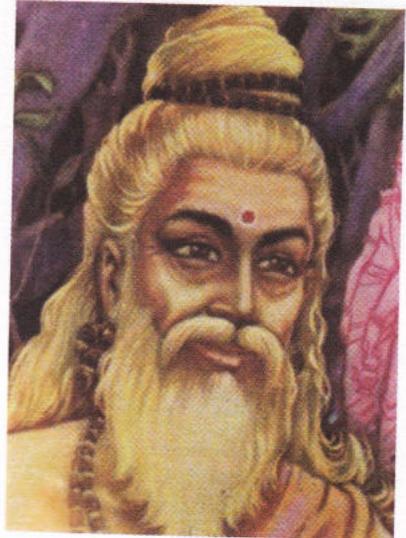


Fig. 5.4: Vishwamitra

The historians believe that this hymn was composed in the area where the River Beas and River Sutlej used to flow. As the rivers are compared to horses and cows, it shows that the sages lived in a society where horses and cows were valued highly. The **chariots** and carts were the main mode of transport. We also find mention of the River Indus and its tributaries and the River Saraswati in the hymns. However, the Rivers Ganga and the Yamuna are named only once in the Rigveda.

Cattle, Horses and Chariots

In Rigveda, a number of prayers for cattle, children (particularly sons) and horses are found. Horses drew the chariots in the battles. Generally, battles were fought for self-defence, for expansion of territories, for plunder and against animal thieves. Battles were also fought for the possession of land, water, animals and even people.

The obtained wealth was distributed among the leaders, priests and the common people. Some of the wealth was used for performing *Yajnas* or sacrifices. Offerings of milk, grain, ghee, *somras* and animals were made to gods and goddesses. It is interesting to note that offerings were made into the fire.

Army and Mode of Warfare

The king did not maintain a regular or a standy army. The tribal men formed the military in times of necessity. Many tribal groups participated in the war. Generally, the Aryan army consisted of foot-soldiers and *Rathins* (the warriors who fought from chariots). Bows and arrows, swords, spears, axes, lances and slings, etc., were the main weapons. They were made of bronze, copper and iron.

Sabha and Samiti : Political Life of the Vedic Aryans

Sabha and *Samiti* were two popular and significant bodies of the Aryans. Here, the people met to discuss matters of war and peace. They played a vital role in choosing the leaders. Usually, brave and skilful warriors were chosen as leaders (kings), and *Sabha* and *Samiti* assisted the king.

How Were the People Described?

The people are described in various ways such as, in terms of the profession they follow, the language they speak, the place they belong to and on the basis of their family, their community and cultural practices. In Rigveda too, we find some words that have been used to describe people.

In Rigveda, there is a mention of two groups, i.e., (i) the priests (*purohitas*) and (ii) the king (*rajas*), who have been described in terms of their work they performed. The priests performed various rituals. Sometimes, they were called Brahmins. The frequent use of the word '*Rajan*' in the Rigveda suggests that generally monarchy was in vogue during the Rigvedic Period. We find mention of various tribes in the

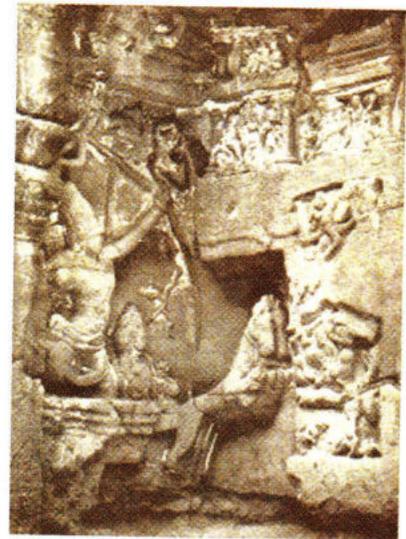


Fig. 5.5: Chariot



Do You Know

Rigveda is one of the earliest specimens of literature in the Indo-European group of languages. It contains 1028 hymns in praise of different deities.

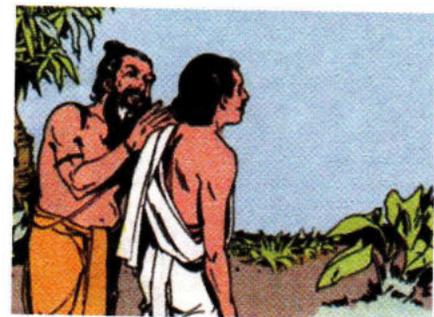


Fig. 5.6: Priest and King





Our Heritage

The Aryans came to India in several waves and the earliest wave is represented by the Rigvedic people. They spoke Sanskrit, a part of the Indo European family of languages. Max Mueller has identified Central Asia as the original home of the Aryans. He has based his views on the study of the world's languages. The significant evidence is that there are fundamental similarities among some ancient languages such as Latin and Greek from ancient language of India, i.e., Sanskrit and the resemblances continue in the languages derived further from Latin and Greek.

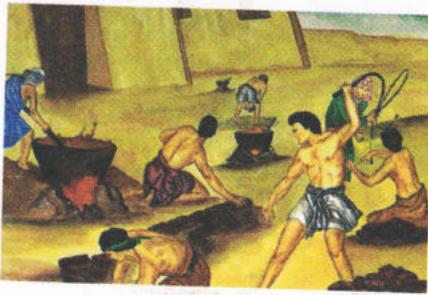


Fig. 5.7: Dasas

Rigveda. Every tribe was ruled by a king. However, the king or *raja* was not an autocrat. He did not have capital city, palace or army nor did he collect taxes. He ruled according to the wishes and advice of the entire tribe. Generally, a son did not automatically succeed his father as *raja* or king. The Rigveda suggests that the king should act according to the wishes of his subjects so that the country may flourish. The major duty of the king was to protect his people. Some officials were appointed to assist the king in day-to-day administration. The Rigveda mentions such three officials i.e. *Purohita*, *Senani* and *Gramani*. *Purohita* was the chief adviser and temporal guru or spiritual teacher of the king. *Senani* was the leader of the army and *Gramani* was the head of a village.

The people or the community as a whole was described by two terms: (i) *Jana* and (ii) *Vish*. The word '*jana*' is still used for 'people' in Hindi and other languages. The word '*vaishya*' popularly used for a community at present, is derived from '*vish*'. Several *vish* or *jana* like the *Puru jana* or *vish*, the *Bharata jana* or *vish*, the *Yadu jana* or *vish*, etc., have been mentioned in the Rigveda.

Dasas or Dasyus

The people who composed hymns described themselves as Aryas. They termed their opponents as *Dasas* or *Dasyus*. *Dasas* did not perform sacrifices. They perhaps spoke different languages. Later, the term *Dasa* came to mean slave. The persons captured in war were converted into slaves. They could be both men and women. Women slaves were known as *Dasis*. The *Dasas* were treated as the property of their masters. They had to dance to the tunes of their owners.

It is worth mentioning that the Rigveda was composed in Sapt-Sindhu region or the land of the seven rivers. It was located in the north-west of the subcontinent. The seven rivers were the Saraswati, Sindhu, Jhelum, Chenab, Ravi, Beas and Sutlej.

Megalithic Culture of Later Vedic Age

The culture which originated in South India after the Stone Age, is known as Megalithic culture. According to historians, South India mainly witnessed the iron-using culture. The two significant characteristics of Megalithic culture are as under:

- (i) Its closely related to the Iron Age,
- (ii) People made use of black and red pottery during this age.



Fig. 5.8: Megalithic Site



Fig. 5.9: Megalithic Urn

'Megalith' literally means a big stone. The stone boulders were carefully arranged by people and were used to mark burial sites. Large stones were placed all around the graves. Hence, they were known as Megaliths. The practice of building Megaliths started around 3000 years ago. It came into prevalence throughout the Deccan, South India, in the North-East and Kashmir.

It is worth mentioning that all the Megaliths were not similar in shape. Some can be seen on the surface whereas some others are often underground. Sometimes, a stone circle was built around the pit grave and sometimes, a single large stone was placed on the ground. These were perhaps the indications that there were burials beneath.

Common Features

Some common features are found in all burials. Generally, the dead were buried with typical pots, known as Black and Red ware. Tools and weapons made of iron have been found in burials. Skeletons of horses, horse equipments and ornaments of stone and gold have also been found in some of the burials.

Existence of Social Differences

The historians believe that various objects found from burials suggest that social differences were in existence in the society. Many a times, more objects are found in one grave. For example, a skeleton was buried with 33 gold beads, 2 stone beads, 4 copper bangles and 1 conch shell in Brahmagiri. Some other skeletons have been found with only a few pots. All these discoveries reveal that there were some variations, perhaps, on economic basis, in status amongst the people. While some were rich, the others were poor, some were chiefs and others were followers.

Certain Burial Spots Meant for Certain Families

Sometimes, more than one skeletons are found from a Megalithic burial. It suggests that people, perhaps, belonging to the same family, were buried at the same place though at different times. It seems that portholes were used to bring the bodies of the later died persons into the grave. Stone circles or boulders placed on the surface perhaps served as signposts to help people to find the burial site, so that they could return to the same place without any difficulty.

Case Study: A Special Burial at Inamgaon

Inamgaon is a site on the River Ghod, a tributary of the Bhima. It was settled between 3600 and 2700 years ago. Here, disposal of dead was done ritualistically. Adults as well as children were usually buried in north-south direction; the heads towards the north and legs towards the south. Sometimes, burials were within houses. The dead was buried in a pit dug into the floor of the house. Vessels perhaps, containing food and water were placed with the dead. It suggests that people believed in life after death.

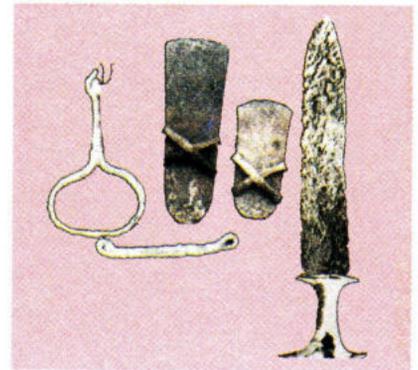


Fig. 5.10: Iron weapons and implements found from megalithic burials

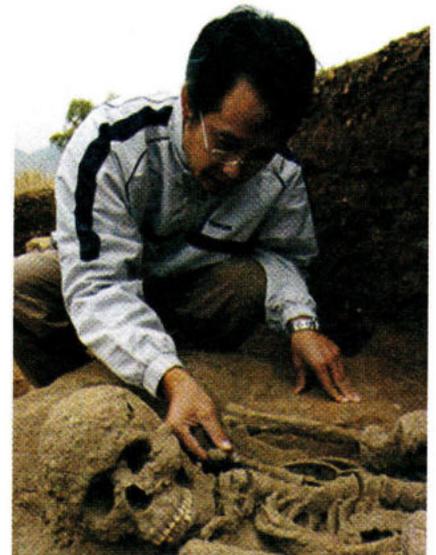


Fig. 5.11: Skeletons found from Megalithic burial



Time Travel

Imagine that you are a priest living in the Later Vedic Age. You have just returned home after performing a yajna. Share your experience in class.





Fig. 5.12: Inamgaon site

A body has been found buried in a large four-legged clay jar in the courtyard of a house having five rooms. Situated in the centre of the settlement, it was perhaps, the largest house at the site. There was also a granary in the house. The historians opine that it might have been the body of some chief.

Occupations at Inamgaon

Cultivation and domestication of the animals were the main occupations of people at Inamgaon. The discovery of seeds of wheat, barley, rice, pulses, millets, peas and sesame, etc., suggest that people were engaged in practising agriculture. Bones of animals like cattle, buffalo, goat, sheep, horse, ass, pig, sambhar, spotted deer, hare, antelope, blackbuck and mongoose have been found in large numbers, suggesting that they were killed for food. People also ate meat of birds, crocodiles, turtles, crabs and fish. Fruits like ber, amla, jamun, dates and a variety of berries were also collected.



In Other Lands

The first evidence of writing in China is found around 3500 years ago. These writings have been discovered on animal bones. Since they were used to predict the future, they were known as oracle bones. Kings, to know the answers to the questions like, the winning of the battles, etc., made scribes to write questions on the bones. Then, the bones were put into the fires. The bone cracked due to the heat of the fire. The fortune tellers tried to predict the future after studying these cracks,

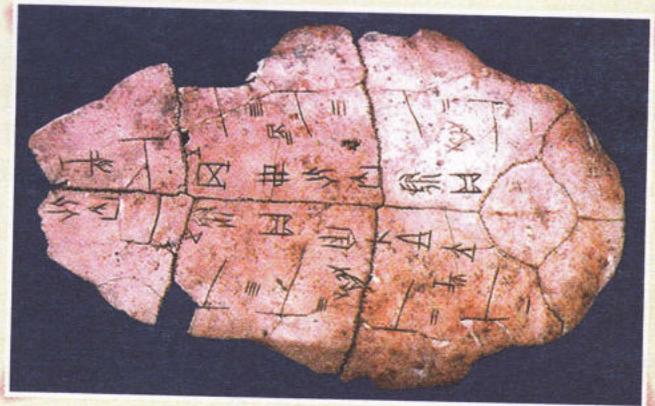


Fig. 5.13: Oracle bones

but their predictions were not always accurate. The kings lived in cities in grand palaces. They had huge wealth and a large number of decorated bronze vessels. However, they were not acquainted with the use of iron.



Dates to Remember

Event	Date
1. The most ancient period of the Indo-Aryans extends	Between 1500-600 BC
2. Composing of the Rigveda	About 3500 years ago
3. Beginning of the building of Megaliths	Around 3000 years ago
4. Settlement at Inamgaon	Between 3600 and 2700 years ago
5. Charaka Samhita was written	About 2000 years ago



Let Us Recall

Veda: It means knowledge and wisdom.

Sukta: It literally means well-said. The hymns in the Vedas are known as *Sukta*.

Soma: It is a plant from which a special drink was prepared.

Chariot: It is an open vehicle with two wheels, pulled by horses or bulls.

Rathins: These are the warriors who fought from chariots.

Priests: The priests performed various rituals. Sometimes, they were called as *Brahmins*.

Dasas: The Aryas termed their opponents as *Dasas* or *Dasyus*.

Megalith: It literally means 'big stone'.



A. Choose the correct answer

- The Veda which helped in the reconstruction of history:
(a) Atharvaveda (b) Samveda
(c) Rigveda (d) Yajurveda
- 'Sapta Sindhu' was located in which part of the subcontinent?
(a) north-east part (b) north-west part
(c) south-east part (d) south-west part
- Which of the following things are commonly found along with burials?
(a) tools and weapons made of bronze (b) tools and weapons made of copper
(c) tools and weapons made of iron (d) tools and weapons made of stones
- The main occupation of the people at Inamgaon was:
(a) mining (b) forestry
(c) art and craft (d) cultivation and domestication of animals
- The word 'jana' in Rigveda refers to:
(a) territory (b) king
(c) people (d) community
- The oldest Veda is the:
(a) Rigveda (b) Samveda
(c) Yajurveda (d) Atharvaveda
- Which of the following new metal was used by Aryans?
(a) copper (b) tin
(c) iron (d) bronze



B. Answer the following questions.

1. What does the Rigveda tell us about the life of the Vedic Aryans?
2. How does the Rigveda help in reconstructing history?
3. What do you know about the political life of the Vedic Aryans?
4. How do we come to know that there were social differences in megalithic culture?
5. What can we know from skeletal studies?

C. Match the following.

Column A

1. Megalith
2. Dasa
3. Sukta
4. Chariots
5. Aryan
6. Inamgaon
7. Indra

Column B

- (a) used in battles
- (b) stone boulder
- (c) a warrior god
- (d) river Ghod
- (e) sacrifice
- (f) superior
- (g) slave

D. Complete the following sentences.

1. The word 'Veda' means knowledge and _____.
2. The Rigveda has 1028 hymns known as _____.
3. Sanskrit belongs to a family of languages termed as _____.
4. Slaves were used for _____.
5. Megaliths are found in _____.
6. Stone circles or boulders on the surface were used to _____.
7. Inamgaon is a site on the river _____.

E. State whether the following statements are true or false.

1. The word 'Aryan' is derived from the Hindi language.
2. Rigveda was composed about 3500 years ago.
3. The Rigveda mentions two officials, *i.e.*, *Senani* and *Gramani*.
4. The word 'Megalith' literally means a big stone.
5. Charaka wrote a book on medicine about 2000 years ago.

1. Individual Project

- (a) Go to your school library and list the names of any five religious books.
- (b) Make a chart of animals found in Vedic age.



6



Kingdoms, Kings and an Early Republic

The period around 6th century BC occupies a very significant place in Indian history. It was during this period that Indian history witnessed various important changes in political, economic, social and religious fields. One of the major changes was seen regarding the institution of *raja* (king).

Some Men Became Kings

It is worth mentioning that the system of choosing leaders or rulers by voting (as we do today, in India) was not in common use during the first half of the 19th century. It has become common during the last fifty years or so. As it has been discussed earlier, some *raj*as were perhaps chosen by the *jana*, the people. However, some significant changes took place in the mode of choosing *raj*as around 3000 years ago. Some men by performing big sacrifices, like, the Ashvamedha Yajna, came to be recognised as *raj*as.

Ashvamedha Yajna

Under Ashvamedha Yajna or horse sacrifice, a horse was let off to wander independently for the whole year. It was followed by the chosen soldiers of the *raja*. If the *raja* of any another kingdom stopped the horse and did not allow it to pass freely within his territory, he had to fight, with the soldiers of the *raja* who wanted to perform the sacrifice. But if the horse passed unrestrained and unchecked into other kingdoms, it meant that the concerned *raj*as were ready to recognise that *raja* as stronger than themselves. These *raj*as were then invited to the sacrifice. The sacrifice was performed by the specially trained priests. The priests were rewarded with valuable gifts. All the *raj*as who came to attend the sacrifice would bring gifts for the *raja* who organised the sacrifice and would recognise him as being very powerful and strong.



Fig. 6.1: A glimpse of Ashvamedha Yajna



Fig. 6.2: Horse of Ashvamedha Yajna





Fig. 6.3: Image of a king sitting on his chariot

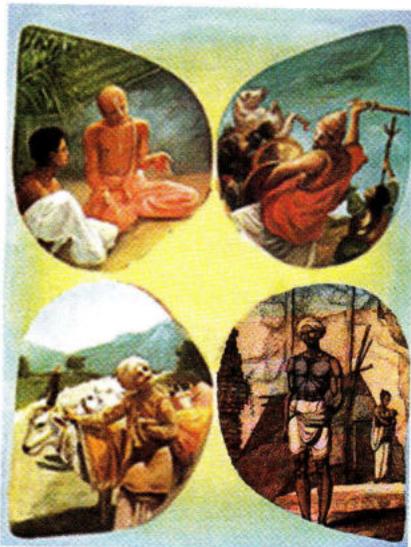


Fig. 6.4: Various groups of people



Fig. 6.5: A Brahmin as teacher

The *raja* enjoyed a central figure in these rituals. Generally, he had a special seat. It may be a throne or a tiger skin. His charioteer sang tales of his bravery and glory. It is worth mentioning that his charioteer accompanied him in the battlefield and witnessed his feats of bravery and courage. The relatives of the *raja* and in particular, his wives and sons had to accomplish a number of minor rituals. The other *raj*as watched the performance of the sacrifice as mere spectators. All the rituals including the sprinkling of sacred water on the king, were accomplished by the priests. The common people too, who were known as Vish or Vaishya, brought gifts for the king. It is worth mentioning that some people, could not participate in many rituals as they were regarded as shudras by the priests.

Varna System

The period from the end of the Rigvedic Age (around 1500 BC to 1000 BC) to the rise of Buddhism is known as the Later Vedic Age (around 1000 BC to 600 BC). A number of books were composed in North India, in particular, in the Upper Gangetic basin during the period circa 1000-600 BC. These books are generally known as later Vedic texts as they were composed after Rigveda. The Samveda, Yajurveda, Atharvaveda, the Brahmins, the Aranyakas and the Upanishads, etc., come under this category. These texts were composed by the priests. They were full of ritualistic formulae and contained rules about society.

At this time, there were various groups such as priests, warriors, farmers, herders, traders, craftspersons, labourers, fishing folk and forest people in the society. It seems that perhaps economic disparities existed in the society. Some priests and warriors, farmers and traders were rich whereas the economic condition of many herders, craftspersons, labourers, fishing folk and hunters and gatherers was not satisfactory.

The society was divided into four groups known as **Varnas**. These were, the **Brahmins**, **Kshatriyas**, **Vaishyas** and **Shudras**. Each Varna had a different set of functions. The teachers and priests came under Brahmin Varna. They were expected to study and teach the Vedas, perform sacrifices and receive gifts. Rulers and warriors belonged to Kshatriya Varna. They were expected to fight battles and protect people. Farmers, herders and traders were placed under Vish or Vaishya Varna. They were expected to perform all the economic activities. Both the Kshatriyas and the Vaishyas could perform sacrifices. The artisans and labourers were placed under Shudra Varna. They could not perform any rituals. Their main duty was to serve the three higher varnas, *i.e.*, the Brahmins, Kshatriyas and Vaishyas. The Shudras as well as the women could not study the Vedas.

We should remember that working ability and efficiency was the very basis of this division during the Rigvedic Age. A person could follow a



vocation according to his ability and liking and thus could become a member of that particular Varna. However, these groups came to be divided on the basis of birth during the Later Vedic Age. For example, the offsprings of a Brahmin father and mother, would automatically become Brahmin. Later, some people such as craftsmen, hunters and gatherers and people helping in the performance of burials and cremations, were classified as untouchables. They lived on the outskirts of the villages and towns. The priests believed that the very shadow of the untouchables would render them impure.

However, some people did not recognise Varna system as laid down by the Brahmins. Some Kshatriyas in particular and some kings, were not ready to accept priests as superior to them. They opined that they were superior to the priests. Some thought that birth could not be the basis for deciding a Varna. Some were of the opinion that there should be no difference amongst people on the basis of occupation. Some others thought that the performance of the rituals should not be restricted. Everybody should be allowed to perform rituals. A number of people criticised the practice of untouchability. Moreover, in many areas of the subcontinent, such as, the north-east, the social and economic differences were not very rigid and the influence of the priests was not much.

Janapadas

As it has been mentioned earlier, the *rajas* performed big sacrifices such as Ashvamedha Yajna. They came to be recognised as *rajas* of *janapadas*. The word '*janapada*' literally means the land where the *jana* (people) set its foot and settled down.

In fact, iron had come into wide use in Eastern Uttar Pradesh and Western Bihar from the 6th century BC onwards. The usage of iron tools and implements helped greatly in clearing the forests. Consequently, a part of the Ganga plain was cleared of forests and people, settled down in different tracts like Panchal, Surasena, Kosala, Kashi, Videh, Magadha etc. These territories came to be known as *janapadas*.

The *janapadas* were named after the ruling clan in each areas. Some of the *janapadas* were republics whereas some others were monarchies.



Fig. 6.6: A Kshatriya as warrior



Fig. 6.7: A Vaishya as farmer

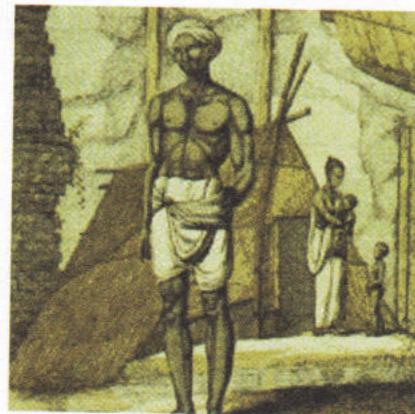


Fig. 6.8: A Shudra as labourer



Our Heritage

The status of republic that India enjoys is an inheritance of the mode of governance from our ancient past. India is a republic because India elects its supreme head, the President of India, Though the President is indirectly elected through people's representatives, it is still considered a republic.



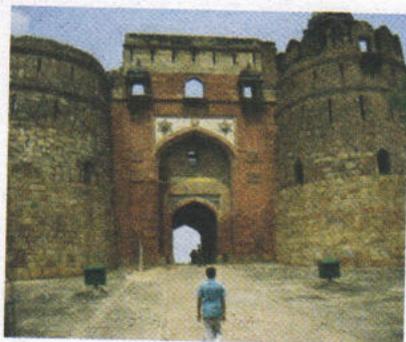


Fig. 6.9: Purana Qila in Delhi

Difference Between a Republic and a Monarchy

The republics were administered by elected tribal councils. There was no hereditary king. Power was held by a group of the selected persons or a selected chief or the heads of families and clans. The Shakyas and the Lichchhavis in modern North Bihar were the important republics of that time. Some republics were independent whereas some others joined together to form a confederacy like Vajji. The monarchies were ruled by hereditary kings. Magadha, Avanti and Kosala were powerful monarchies.

Some significant differences between the two are:

Republics	Monarchies
Revenue was collected by every tribal oligarch, i.e., the leader of the tribal councils.	Here, the king was the sole recipient of the revenue.
Each raja was free to maintain his own army under his <i>senapati</i> .	Every monarchy has a regular standing army.
Brahamans had no influence in the early republics.	Brahamans exercised great influence in the monarchies.
Republics functioned under the leadership of the oligarchic assemblies.	Monarchies functioned under the leadership of one individual.



Fig. 6.10: Animals in the ancient Rock Paintings

A number of settlements have been discovered by the archaeologists in these *janapadas*. Some of these are Purana Qila in Delhi, Hastinapur near Meerut and Atranjikhera, near Etah. Both Hastinapur and Atranjikhera are in modern Uttar Pradesh.

Dwellings, Cultivation and Domestication of Animals

The archaeological remains found from these sites suggest that people lived in huts. They domesticated cattle as well as other animals. They cultivated various crops such as rice, wheat, barley, pulses, sugar cane, sesame and mustard.

They also made beautiful earthen pots. Some of these were grey in colour while some others were of red in colour.

Painted Grey Ware

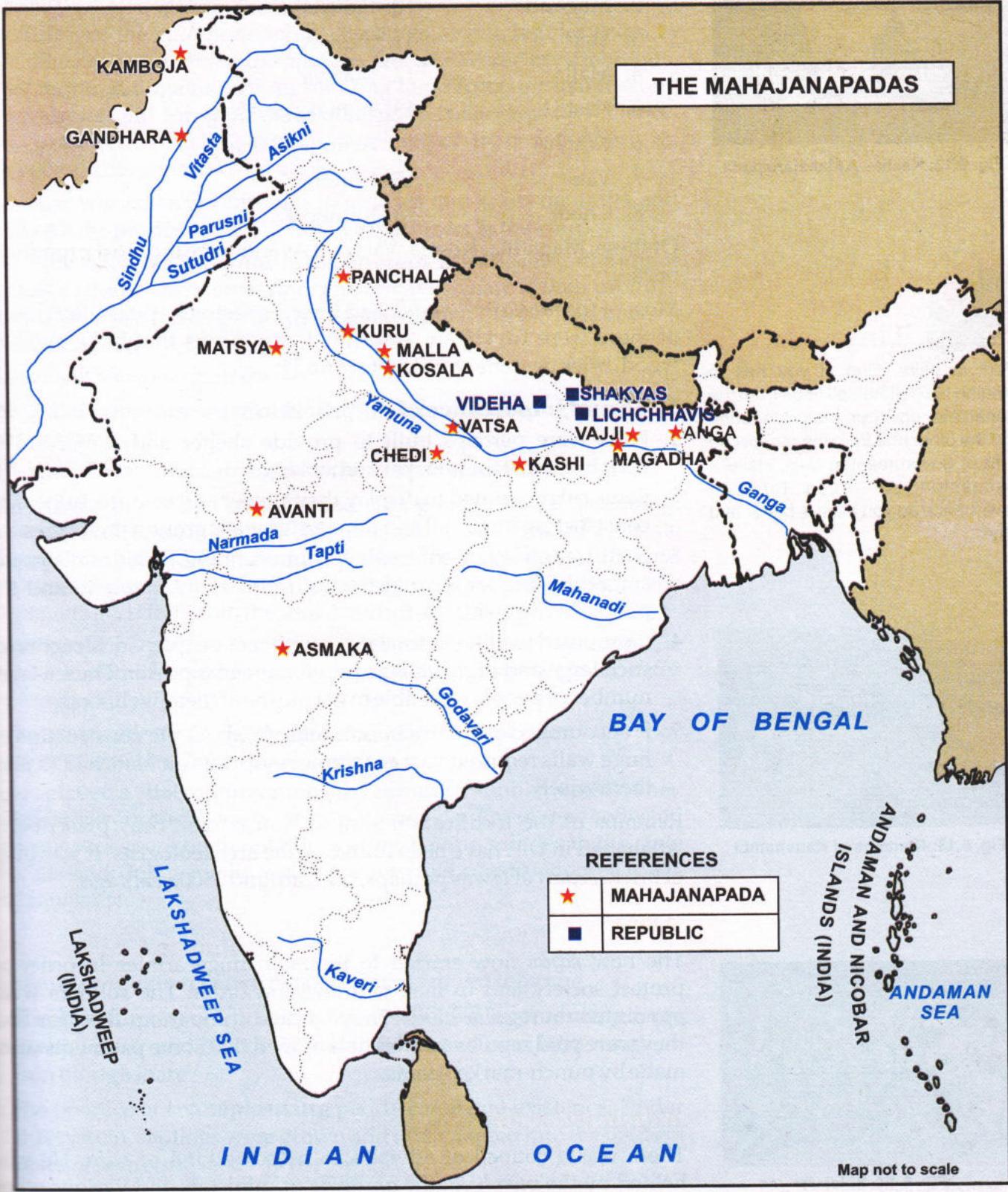
One peculiar type of pottery found from these sites, is popularly known as painted grey ware. These grey pots, as is clear from the name, had painted designs like simple designs and geometric patterns. Plates and bowls were some of the most common pots made out of the painted grey ware. These vessels were very fine to touch, having a nice and smooth surface. It seems that they were not in common use. They were perhaps used on special occasions by important people and for the important people. Special food was served in them.



Fig. 6.11: Painted Grey Ware

MAHAJANAPADAS

Later, around 2500 years ago, some *janapadas* because of their ambition of expansion and occurrence of mutual conflicts, became more important than others. They registered a good expansion and grew into



THE MAHAJANAPADAS

REFERENCES

★	MAHAJANAPADA
■	REPUBLIC

Map 6.1: Map showing the Mahajanapadas





Fig. 6.12: Kashi—A Mahajanapada



Time Travel

Work in pairs. One of you has to imagine himself/herself to be from the monarchical government in Magadha and the other one from the republican form of government in Vajji. Have a discussion on which form of governance do you think is better and why?



Fig. 6.13: Remains of Kaushambi



Fig. 6.14: Soldiers

mahajanapadas. We find references of 16 *mahajanapadas* in the Buddhist text, Anguttara Nikaya. These were:

- | | |
|------------|---------------------|
| 1. Anga | 9. Kuru |
| 2. Magadha | 10. Panchala |
| 3. Vajji | 11. Surasena |
| 4. Malla | 12. Matsya |
| 5. Kashi | 13. Asmaka or Assak |
| 6. Kosala | 14. Avanti |
| 7. Vats | 15. Gandhar |
| 8. Chedi | 16. Kamboja |

Of these, Magadha, Kosala, Vats and Avanti were the most prominent ones.

Most of the *mahajanapadas* had their respective capital cities. Many of these were **fortified**. A fortified city means that huge walls of wood, brick or stone were built around it.

Need and Importance of Fortification

1. Forts were perhaps built to provide shelter and protection to people against the attacks of other kings.
2. Some rulers wanted to display their power and resourcefulness by constructing huge, tall and impressive walls around their cities.
3. Fortification was perhaps, helpful in running the administration smoothly. The king could control more easily, the land and the people living inside the fortified area.
4. It provided livelihood to a large number of people. Construction of such large and high walls required huge manpower. Thus, a large number of people were able to get means of their livelihood.
5. It encouraged planning in economic field. As the construction of huge walls required vast economic resources, the state had to plan them wisely.

Remains of the fortification wall at Kaushambi, near present-day Allahabad in U.P. have been found by the archaeologists. It was built of brick. A part of it was perhaps, built around 2500 years ago.

Army

The new *rajās* now started to maintain huge armies in order to protect society and to maintain law and order. The soldiers were appointed on regular basis. They worked throughout the year and they were paid regular salaries. It is opined that some payments were made by punch-marked coins.

Administration

There was a council of advisers to help the king or *raja*. He was helped by the *purohita*, the *amatyas* or ministers and various other officers in day-to-day administration. The *purohita* and *senani*



enjoyed high status. The influence of the Brahmins was also great. They were king's main advisers. The kings issued their own coins. Heads of the villages were free to see the king.

Revenue: Importance of Taxes

The rulers of the *mahajanapadas* started collecting regular taxes. In fact, some of the rulers of the *mahajanapadas* were very ambitious. They required huge money for building large forts, for maintaining huge armies and for appointing officials to collect revenue. Hence, they preferred collecting regular taxes rather than depending on occasional gifts given by the people.

Revenue was collected through land taxes and taxes on crafts and trade. All the producers of goods had to pay a **tax** to the king.

Of all the taxes, land revenue or tax on crops was the most important as most of the people were farmers. They gave a share of their produce as land revenue. It was generally $1/6$ of the produce. It was known as *bhaga* or a share.

Taxes were levied on craftspersons as well.

The traders were also expected to pay taxes on goods bought and sold through trade.

Herders, hunters and gatherers too, had to pay taxes to the king.

Taxes could be paid in cash or kind (*i.e.*, goods). In the beginning, taxes were collected in the form of goods and were distributed to state officials as salary. For example, the king received tools and implements free of cost from the metal workers, chariots from the carpenters and cloth from the weavers.

Taxes could be paid in the form of labour as well. For example, a weaver or a smith could pay tax by working for a day every month for the king.

Taxes were collected by state officials known as tax-collectors. They were appointed by the king.

Taxes played a vital role in running the administration smoothly. They formed the very backbone of the administration. The money collected by taxes was spent on maintaining army, paying salaries to the state officials and doing public welfare works like construction of roads and canals etc.

Changes in Agriculture

Agriculture underwent two major changes around this time.

- 1 The growing use of iron ploughshares helped in producing more grain. Heavy and clayey soil could be turned over better with an iron ploughshare.
- 2 The practice of **transplanting** paddy came into existence. Under this system, saplings were grown and then planted into the fields in place of scattering seeds on the ground.

Consequently, there was a considerable growth in production.



Fig. 6.15: Iron ploughshare



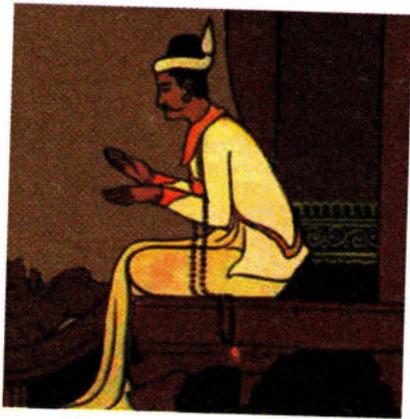


Fig. 6.16: Bimbisara—the Magadhan ruler



Fig. 6.17: Army of Magadha



Fig. 6.18: Remains of Rajgir Fort

However, we should remember that transplanting paddy was a very hardwork. Generally, this job was performed by slave men and women and landless agricultural labourers.

Case Study

1. MAGADHA

The political history of India from 6th century BC onwards is the history of struggle for supremacy among the four states of Magadha, Kosala, Vats and Avanti. Ultimately, Magadha emerged victorious. By the 5th century BC, it became the strongest and the largest state of India. It played a significant role in the politics of India till 4th century BC. Magadha also emerged as a powerful monarchy.

Factors leading to the rise of the Magadhan power

Many factors contributed to the rise and expansion of the Magadha kingdom. These can be studied as under:

- (a) The Magadha Empire enjoyed an advantageous geographical position. It was secured from all the sides.
- (b) The rivers like, the Ganga, Son and Champa flowed through Magadha. They helped in improving (i) transport (ii) water supply and (iii) fertility of land.
- (c) There were thick forests in Magadha. Elephants living in the forests could be tamed and trained for the army. Forests were also an important source of providing wood which was required for building houses, carts and chariots.
- (d) There were rich iron ore deposits in Magadha. They enabled the rulers to make themselves equipped with effective weapons. They also helped in the growth of agriculture and industry thus making Magadha strong and prosperous.
- (e) Magadha was situated in the middle Gangetic plain. Hence, its land was very fertile.
- (f) Magadha had a large army equipped with effective weapons of iron. It was the first state to have a powerful elephant unit in its army.
- (g) The Magadhan rulers like Bimbisara, Ajatshatru and Mahapadma Nanda were very courageous and ambitious. They expanded and strengthened their kingdom and converted it into a large empire. Bimbisara, in particular, made a remarkable contribution in the rise and expansion of the Magadhan Empire. He established matrimonial relations with powerful and renowned states of the day in order to make Magadha strong and powerful. Both Bimbisara and Ajatshatru used all possible means to conquer other *Janapadas*. Mahapadma Nanda gave Magadha an unparalleled expansion. He extended his control up to the north-west part of the subcontinent.



(h) Both the capitals of the Magadha, earlier at Rajagriha (now Rajgir) and later at Pataliputra (now Patna) were situated at strategic locations.

All these factors helped considerably in the rise and expansion of the Magadhan empire.

Alexander's Invasion of India

Alexander was the son of Philip, a ruler of Macedonia in Greece. The world-renowned philosopher Aristotle was his tutor. He succeeded his father in 335 BC. He was a highly ambitious person and wanted to become a world conqueror. He could not succeed in conquering the world but was successful in conquering some parts of Egypt and West Asia. Alexander came to the Indian subcontinent reaching up to banks of the River Beas in 326 BC. However, his advancement was halted at the River Beas when his troops refused to proceed further. The reason was that his troops had left their country around ten years earlier and continuous wars had made them tired and exhausted. However, some historians opine that his troops were scared of the powerful Nanda Empire that lay across the Beas. Thus, Alexander had to retreat.



Fig. 6.19: Alexander

2. VAJJI

Vajji was located at north of the Ganga in modern Bihar. Its capital was Vaishali. It had a different kind of government known as *gana* or *sangha*. *Gana* means a group having many members. *Sangha* is used for organisation or association. Basically, it was a small republic and held full and frequent public assemblies.

Vajji was a *gana* or confederacy of eight clans. Of these, the Videha, the Lichchhavi and the Jnatrika were the most well-known.

Mode of Governance

In a *gana* or *sangha*, there were many rulers who ruled together. Each one was known as a *raja*. They performed rituals together. They would meet in assemblies and took decision on important issues through discussion and debate. For example, if there was a threat of an attack by an enemy, they would meet to discuss and decide regarding the necessary action. However, we should know that women, *dasas* and *kammakaras* were not allowed to participate in these assemblies.

It is worth mentioning that Mahatma Buddha and Mahavira Swami as well belonged to *ganas* or *sanghas*. Some Buddhist texts provide good descriptions of life in the *sanghas*. *Digha Nikaya* is a renowned Buddhist text. It comprises some of the speeches of the Buddha. It was written down around 2300 years ago. Here is an account of the Vajjis as given in 'Digha Nikaya'.

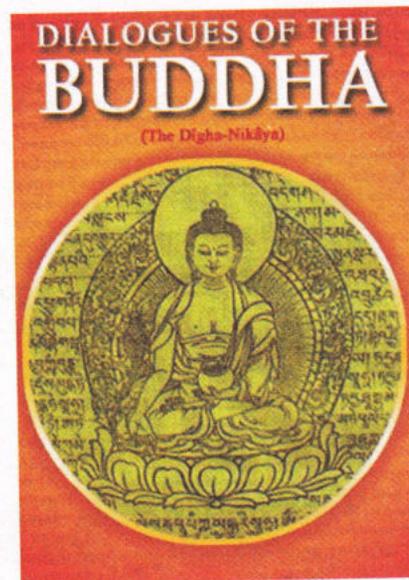


Fig. 6.20: Digha Nikaya





Time Travel

Enact the discussion and debates that would have held in a republic, like that of the Vajjis', with respect to combating an attack launched by Ajatshatru, the Magadhan King.

Ajatshatru and the Vajjis

Ajatshatru, the ruler of Magadha, wanted to launch an attack against the Vajjis. He dispatched his minister Vassakara to the Buddha in order to seek his guidance on the issue.

Buddha inquired if the Vajjis met in full assemblies very often. When he came to know that they did so, he acknowledged that, the Vajjis would continue to flourish as long as:

- They organised full public assemblies very often.
- They continued to meet and act unitedly.
- They continued to follow established rules.
- They continued to respect, support and obey their elders.
- They continued to maintain *chaityas* (local shrines) in towns and villages as well.
- Vajji women would be given a respectful place in the society.
- Enlightened persons following various beliefs were given respectful place and were permitted to enter and leave the country without any restriction.

Thus, the governance of the Vajji *sangha* was different (in many respects) from that of the other *mahajanapadas*.

Rajas of large and powerful kingdoms made efforts to subdue the *sanghas*. However, they could not succeed in their efforts. These *sanghas* remained in existence for a very long time. The Gupta rulers subdued the last of the *ganas* or *sanghas* around 1500 years ago.



In Other Lands

The people of Athens around 2500 years ago had instituted a form of government, known as democracy. It remained in existence for about 200 years. Some salient features of the democracy of Athens were as under:

- All free men over the age of 30 were accorded full citizenship.
- All the important issues were decided by an assembly. It met at least 40 times a year.
- All citizens were free to attend these meetings.
- Appointments for many positions were made through lot system.
- Citizens were expected to serve in the army and the navy.
- Citizenship was not given to womenfolk.
- Many foreigners such as merchants and craftspersons living and working in Athens did not enjoy rights of citizenship.
- There were a large number of slaves in Athens. They were employed in mines, fields, households and workshops. They too were not granted the rights of citizenship.

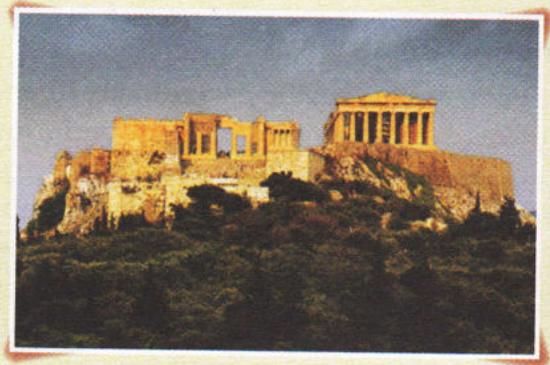


Fig. 6.21: Athens—City of Greece





Dates to Remember

Event	Date
1. Emergence of new kinds of <i>rajas</i>	Around 3000 years ago
2. <i>Mahajanapadas</i> came into existence	Around 2500 years ago
3. Magadha became the strongest state of India	By the 5th century BC
4. Magadha played a significant role in the politics of India	Till 4th century BC
5. Alexander became the ruler of Macedonia	In 335 BC
6. Alexander invaded India	In 326 BC
7. <i>Digha Nikaya</i> was written down	Around 2300 years ago
8. End of the <i>ganas</i> or <i>sanghas</i>	Around 1500 years ago



Let Us Recall

Raja: It refers to a king or a ruler. Some *rajas* were chosen by the *jana* (people).

Ashvamedha Yajna: It refers to the horse sacrifice. The sacrifice was performed by the specially trained priests.

Varna system: It is a system under which the ancient society was divided into four groups: Brahmin, Kshatriya, Vaishya and Shudra.

Janapada: It is the land where the *jana* set its foot and settled down.

Mahajanapadas: It is a larger form of *janapada*. The *janapadas* registering a good expansion, grew into *mahajanapadas*.

Fortified city: It is a city having huge walls of wood, brick or stone around it.

Tax: It was the money that was to be paid to the State.

Transplanting: Removing a growing plant with its roots still attached and planting it elsewhere.

Gana or Sangha: *Gana* means a group having many members. *Sangha* is used for organisation or association.



A. Choose the correct answer.

- The period in history which witnessed changes with regard to political institutions was—
 - around 3rd century BC
 - around 4th century BC
 - around 5th century BC
 - around 6th century BC
- A person came to be recognised as *raja*:
 - by voting
 - by imposing heavy taxes on people
 - by performing huge sacrifices
 - by having large number of army



3. Varna system was a system in which:

(a) society was divided into classes	(b) society was divided into four groups
(c) society was divided into tribes	(d) society was divided into occupations
4. Which one of the following is *janapada*?

(a) Kosala	(b) Avanti
(c) Asmaka	(d) Kuru
5. One of the characteristic features of *mahajanapadas*. They:
 - (a) were named after a ruling class
 - (b) were republics
 - (c) had fortified capital cities
 - (d) were monarchies
6. An important change brought in agriculture is the use of:
 - (a) high yielding varieties of seeds
 - (b) modern methods of irrigation
 - (c) iron-ploughshares
 - (d) tractors
7. Which state became victorious in 5th century BC?

(a) Magadha	(b) Avanti
(c) Kosala	(d) Vats
8. The most significant aspect of Magadha is that:
 - (a) it did not enjoyed geographical position
 - (b) it did not have thick forests
 - (c) it was rich in iron-ore deposits
 - (d) it had the adequate water source
9. Vajji was famous for:

(a) <i>gana</i> or <i>sanghas</i>	(b) magnificent temples
(c) fortified cities	(d) assemblies
10. The ruler of Magadha was:

(a) Alexander	(b) Lichhavi
(c) Jaintrikas	(d) Ajatshatru
11. Who belonged to *gana* or *sangha*?

(a) Alexander	(b) Mahatma Buddha
(c) Ajatshatru	(d) Vajis
12. The early capital of Magadha was:

(a) Pataliputra	(b) Avanti
(c) Kaushambi	(d) Calcutta

B. Answer the following questions.

1. Write a note on Ashvamedha Yajna.
2. What do you mean by Varna system?
3. Discuss the differences between a republic and a monarchy.
4. Assess the need and importance of fortification.
5. Why did the kings of *mahajanapadas* build forts?



6. Mention the groups which could not participate in the assemblies of the *Ganas*.
7. Discuss the causes of the rise and expansion of Magadha.
8. On the following outline map of India, mark the *mahajanapadas*.



C. Give reasons.

1. The new kings started to maintain huge armies.
2. The rulers of *mahajanapadas* started collecting regular taxes.
3. Bimbisara established matrimonial relations with powerful states.
4. Alexander's advancement was halted at the River Beas when his troops refused to proceed further.



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D. State whether the following statements are true or false.

1. Some *rajas* were chosen by the *jana*, the people.
2. *Rajas* who let the Ashvamedha horse pass through their lands were invited to the sacrifice.
3. The charioteer sprinkled sacred water on the king.
4. Archaeologists have found palaces in the settlements of the *janapadas*.
5. Pots to store grain were made out of painted grey ware.
6. Herders had to pay taxes to the king.
7. Alexander was the son of Philip.

E. Fill in the blanks.

1. The sacrifice was performed by the specially trained _____.
2. Most of the _____ had their respective capital cities.
3. Some people could not participate in rituals as they were regarded _____.
4. Priests and teachers came under _____ Varna.
5. The monarchies were ruled by _____.
6. The practice of _____ paddy came into existence.
7. There were rich _____ deposits in Magadha.

1. Field Trip

Visit 'Purana Qila' in Delhi and Hastinapur near Meerut and collect information about the kings which were associated with these places.





Rise of New Questions and Ideas

The ancient Indian religious tradition has time and again witnessed churning and the consequent emergence of new ideas. These new ideas basically took two forms; firstly, changes in the view of thinking within a religion and secondly, the emergence of new religious sects. The first is characterised by the growth of the Upanishads and the second by the emergence of the Jainism and the Buddhism besides many other smaller sects and cults.

These can be studied under following headings:

The Upanishads

With the passage of time, the Vedic religion witnessed a shift in the emphasis from materialistic to philosophical and spiritual basis of life. Some thinkers tried to find answers to mysterious questions like life after death and importance of the sacrifices. Many of them started to believe that there was something everlasting about the soul. They believed that it would last even after death. They termed it as the *atman* or the individual soul and the *brahman* or the universal soul. They believed in the oneness of the *atman* and the *brahman*. Many of such philosophical ideas came to be recorded in the Upanishads.

The **Upanishads** are the culmination of ancient Indian philosophical ideas. They form a part of the later Vedic texts. The word Upanishad is derived from the words, upa (near), ni (down) and shad (to sit). It denotes pupils sitting near their guru or teacher to learn. Eventually, the word came to be used for the secret knowledge imparted by the guru to his selected pupils. A number of treatises were prepared, first orally and then in writing and were called by the same name of Upanishad. Thus, the texts contain conversations between teachers and students. Generally, ideas are presented through simple dialogues.

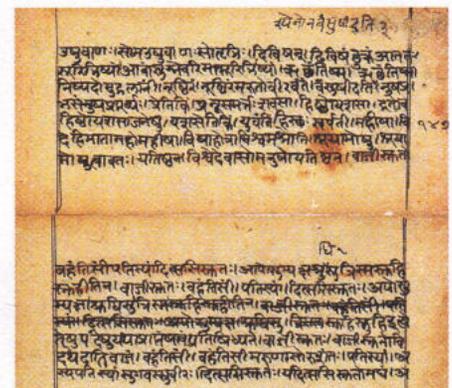


Fig. 7.1: Upanishads



Fig. 7.2: Pupils sitting near Mahatma Buddha





Fig. 7.3: Picture depicts Gargi being imparted knowledge by the guru



Fig. 7.4: Panini—The Grammarian



Do You Know

Upanishad is also known as Vedanta because it marked the end of Vedic learning.



Fig. 7.5: A low caste person

Upanishadic Thinkers

There are 108 Upanishads composed by several learned saints and sages between 800 and 500 BC. Most of the Upanishadic thinkers were men, in particular, *brahmins* and *rajās*. Sometimes, we find the mention of women thinkers like Gargi. Gargi was well-known for her learning. She used to participate in debates held in royal courts. It is worth mentioning that participation of the poor people in these discussions, was rare. However, Satyakama Jabala, was an exception. He was named after his mother Jabali, a slave woman. He had an earnest desire to know about reality. A brahman teacher named Gautama accepted him as his student. Shankaracharya, the famous thinker, later developed many of the ideas of the Upanishads.

Panini, the Grammarian

Language and literature also registered a substantial growth. Panini, the most outstanding grammarian, prepared a comprehensive guide of pronunciation and formation of classical Sanskrit words. He did the remarkable job of arranging the vowels and the consonants in a special order and then using them to develop formulae such as found in Algebra. These were used to write the rules of the language in short formulae.

Jainism and Buddhism

Both Jainism and Buddhism were motivated by the philosophy of the Upanishads. Their ideas about *karma*, soul, rebirth, *moksha*, *ahimsa*, etc., had been inspired by the Upanishads.

Causes of the Rise of Jainism and Buddhism

The causes contributing to the rise and growth of Jainism and Buddhism can be studied as under:

1. The Vedic philosophy had lost its original purity. It was reduced to a bundle of bulky rituals.
2. The sacrifices prescribed by the Vedas had become very complicated.
3. The Vedic religion had degenerated into superstitions, dogmas and rituals.
4. The practice of animal sacrifice in the *yajnas* was creating hurdles in the growth of agriculture.
5. The caste system had become very rigid and brutal. A low caste person was not permitted to perform *yajna* or to study religious texts.
6. The supremacy of the *brahmins* over other castes caused unrest.
7. All the religious treatises were written in Sanskrit, a language of the elite. Hence, the masses began to aspire for a religion which could be explained in their own language.

All these factors led to the rise and growth of Jainism and Buddhism during the 6th century BC. In fact, this period witnessed some rapid changes in the lives of the people.

1. Some kings in the *mahajanapadas* grew more powerful.



2. New cities came into existence. The village life too, underwent a change.
3. Some thinkers started making efforts to understand these changes and to find out the real meaning of life.

Jainism

Mahavira, the 24th and the last **Tirathankara** (religious teacher), was the most renowned thinker of Jainism. He was a Kshatriya prince of the Lichchhavi. He was born in Kundagrama (a suburb of Vaishali) in Muzaffarpur district of modern Bihar in 599 BC.* His father Siddhartha was the head of the Jnatrika clan and his mother Trishala was the princess of Vaishali. Mahavira's original name was Vardhamana.

While young, he was married to the princess Yashoda. However, Vardhamana never enjoyed the materialistic life. At the age of 30, he renounced his family, became an ascetic and proceeded in search of truth. In the 13th year of his asceticism, he attained Kaivalya, *i.e.*, the supreme knowledge. From now onwards, he was called **Jina** (the conqueror) and Mahavira (the Supreme Hero). His followers came to be known as **Jainas**. Mahavira, for the remaining 30 years, moved from one place to another to preach his religion. He passed away in Pavapuri near Rajgir in 527 BC at the age of 72.

Teachings of Mahavira (Principles of Jainism)

The teachings of the Jain Tirathankaras are compiled in the twelve **Angas**. These can be studied as under:

1. Mahavira Swami believed that *moksha* or salvation could be obtained by observing **Tiratnas** or three jewels. These are:
 - (a) Right knowledge (achieving complete knowledge of the teachings of the Tirathankaras)
 - (b) Right faith (having complete faith in Tirathankaras)
 - (c) Right conduct (performing good deeds)
2. Jainism lays much emphasis on the following five vows, *i.e.*, non-violence, truth, non-stealing, non-possession and celibacy.
3. **Ahimsa** or non-violence is the basic principle of Jainism. It means not hurting or killing living beings. Mahavira told his followers, "All beings long to live. To all things life is dear." Hence, one should abstain from violence of every kind.
4. The Jainas believe that salvation can be achieved only through rigorous fasting, penance and austerity.
5. Jainism denies the existence of God as the creator of the Universe.
6. Mahavira denied the sanctity of the Sanskrit and delivered his preachings in the language of the masses.
7. He denounced the caste system and propagated the equality of human beings.
8. Mahavira laid much emphasis on women emancipation.

* According to some scholars, he was born in 540 BC (540–468 BC).

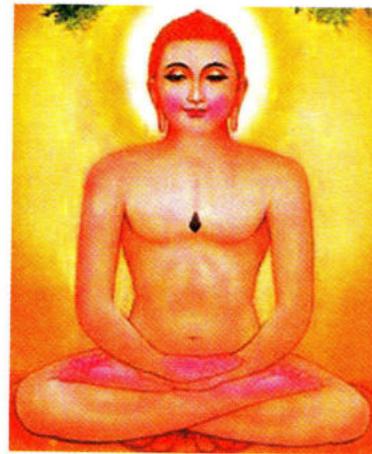


Fig. 7.6: Vardhamana Mahavira

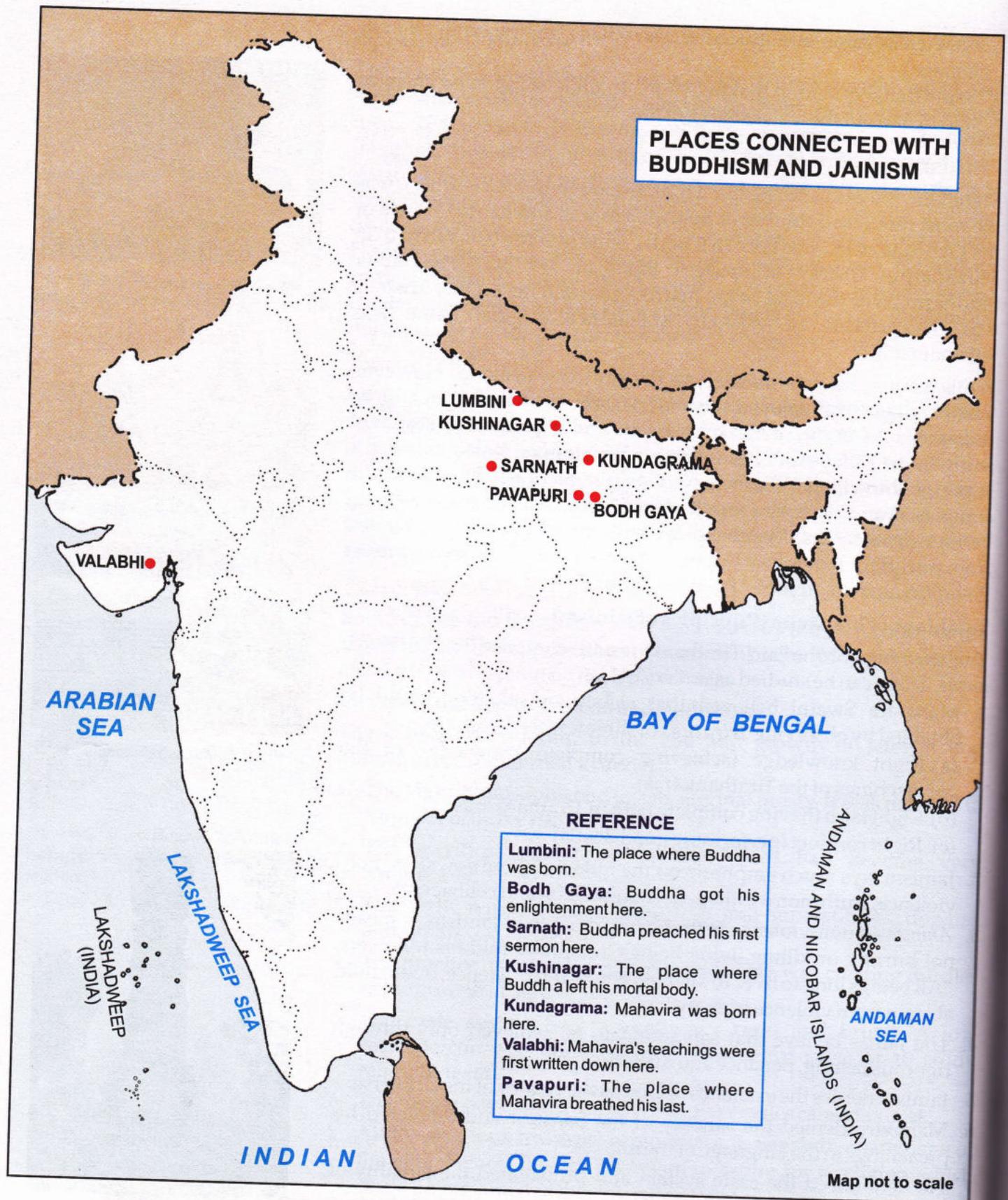


Fig. 7.7: Mahavira's teachings



Fig. 7.8: A Jaina Stupa





Map 7.1: Places connected with Buddhism and Jainism



Spread of Jainism

Teachings of Mahavira Swami came to be very popular among the masses. According to Jaina tradition, the kings like Bimbisara, Ajatshatru and Chandragupta Maurya were followers of Jainism. It registered a wide growth in Malwa, Gujarat, Rajasthan and Tamil Nadu.

The teachings of Jaina Tirathankaras were transmitted orally for several centuries. They were written down in their present form at Valabhi in Gujarat about 1500 years ago. It gained popularity particularly in trading community. It could not win support of the farmers as they had to kill insects to protect their crops.

Split in Jainism

After the death of Mahavira, his followers during the period around 300 BC came to be divided into two sects, namely, the Shwetambaras and the Digambaras. Digambar Jain monks discard the clothes but Shwetambaras wear white garments.

Causes of the Success of Jainism

1. The teachings of Jainism were very simple and practical.
2. The religion was preached in the language of the masses.
3. The doors of Jainism were open for all.
4. Many kings extended their full support and co-operation to it.

Buddhism

Gautam Buddha, a contemporary of Mahavira, was the founder of Buddhism. He was born as a Kshatriya prince Siddhartha in 563 BC* in Shakya tribe in Lumbini grove near Kapilavastu in present day Nepal. His father Shuddhodana was the ruler of Kapilavastu.

Siddhartha as a child led a sheltered life and was provided every kind of luxury. He was married at an early age to a beautiful princess Yashodhara and was blessed with a son Rahul. However, Siddhartha was not happy at heart. The popular legend says that the sight of an old man, a sick man, a dead body and an ascetic filled him with deep sorrow. One night at the age of 29, he left his home, wife and son and became an ascetic in search of truth. He wandered as an ascetic for about 6 years. Ultimately, at the age of 35, he attained enlightenment under a *peepal* tree at Bodh Gaya in Bihar. Since then, he came to be known as the **Buddha** (the enlightened one) and **Tathagat** (one who has attained the truth). He delivered his first sermon at Sarnath, near Varanasi. Thereafter, for forty-five years, Buddha went around the country, from town to town, from village to village to propagate his gospel. He breathed his last in 483 BC at the age of 80 at Kushinagar or Kushinara (Kasia in Deoria district, in Uttar Pradesh). His death is known as 'Mahaparinirvana'.

*According to some scholars, he was born in 597 BC.



Fig. 7.9: A Jaina Temple

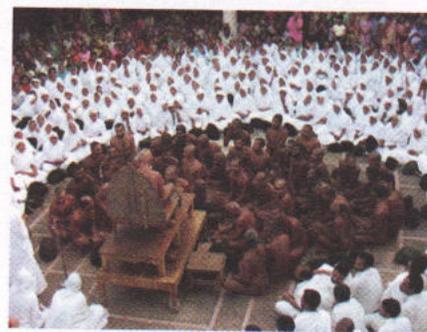


Fig. 7.10: Jaina Monks



Fig. 7.11: First Sermon at Sarnath



GUIDE THROUGH THE ABHIDHAMMA PITAKA

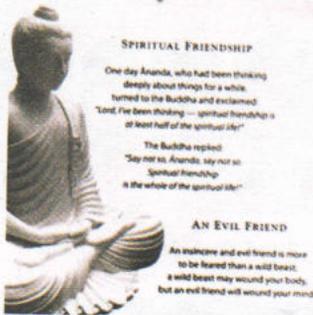


Fig. 7.12: Abhidhamma Pitaka

Teachings of Buddha or Principles of Buddhism

Mahatma Buddha's teachings are compiled in three Pitakas known as 'Tripitakas'. These are Vinaya Pitaka, Dharma-sutra Pitaka (Sutta Pitaka) and Abhidharma Pitaka (Abhidhamma Pitaka). His teachings can be studied as under:

1. The essence of Buddhism lies in the four noble truths.



Fig. 7.13

1. **Dukkha**
The truth of suffering
2. **Samudaya**
The truth of the origin of suffering
3. **Nirodha**
The truth of the end of suffering
4. **Magga**
The truth of the path to the end of suffering

Buddha believed that this world is full of misery and sorrow. The cause of misery and sorrow is desire. Desire often cannot be fulfilled. Even if we get what we want, we are not satisfied, and want even more things. Buddha termed it as thirst or *tanha*.

2. Buddha advised his followers to follow the Noble Eightfold path (or the middle path or moderation in everything) to destroy the desire. It consists of the following eight principles of moral conduct:

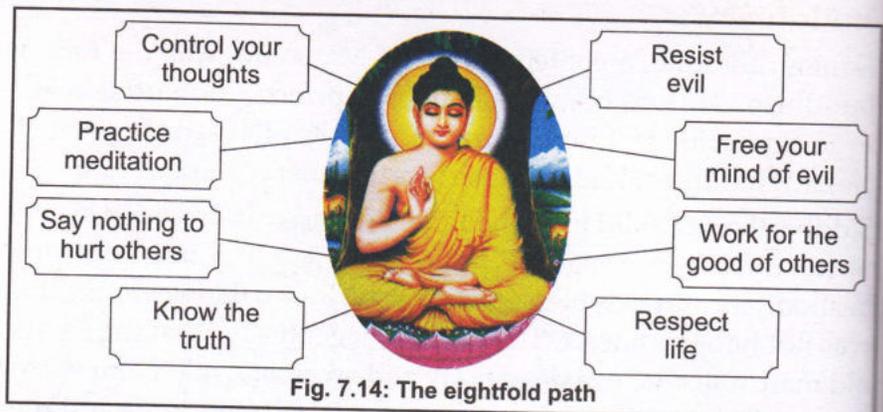


Fig. 7.14: The eightfold path

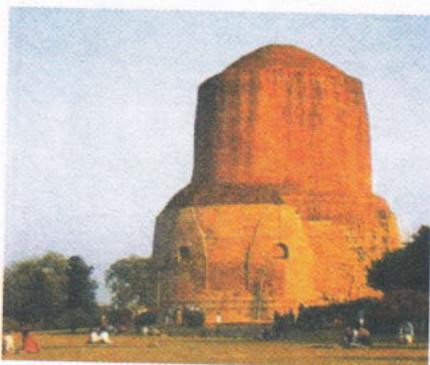


Fig. 7.15: Dhamek Stupa at Sarnath

3. Buddha gave a message of non-violence, pity and love for all the creatures. He held that man should love all the living creatures.
4. Buddha believed that the results of our *karmas* (actions) whether good or bad affect us both in this life and the next.
5. According to Buddha, Nirvana is the ultimate objective of human life.
6. Buddha refused to recognise the importance of the Vedic rituals and the superiority of the Brahmins.
7. He encouraged the common masses to think for themselves instead of simply accepting what he said.

Thus, the teachings of Mahatma Buddha were based on moral values, love and logic.



Spread of Buddhism

In course of time, Buddhism spread in India and abroad as well. Besides India, it came to be a popular religion in many other countries like China, Sri Lanka, Japan, Burma, Thailand, Java, Cambodia, Tibet and Indonesia.

Causes of the rapid spread of Buddhism

1. The magnetic personality of Mahatma Buddha influenced the king and the pauper equally.
2. The common masses needed a simple and practical religion which they found in Buddhism.
3. The teachings of Buddhism were very simple. Hence, people started embracing it in a large number.
4. Buddhism was preached in **Pali**, the spoken language of the masses.
5. There was no room for casteism in Buddhism. Hence, the so-called low castes people came under its fold in large numbers. We come to know from a Buddhist text that just as the waters of rivers lose their names and separateness when they flow into the colossal sea, similarly *varna*, ranks and family lose their identity when the people come under the fold of Buddhism.
6. Buddhism is a highly elastic faith. It could adapt itself easily to the needs of all countries.
7. The kings like Ashoka, Kanishka, Milinda and Harsha extended royal patronage to Buddhism.

Thus, it became a prominent religion not only of India but of the world.

Split in Buddhism

After Mahatma Buddha, the Buddhist order split into two schools, namely, Hinayana (Sthaviravadi) and Mahayana (Mahasanghika). Hinayana was the original and unchanged form of Buddhism. Mahayana was its new and amended form.

The Sangha

Both the Mahavira and the Buddha believed that one could not gain true knowledge without detaching oneself from the world thoroughly. Hence, the *sanghas* (associations of those who left their homes) were established to accommodate them and to make them stay together.



Our Heritage

Buddhist Monks helped in spreading Buddhism across India and outside. They also took Indian culture to other parts of Asia. Buddhist texts compare the lives of the monks with those of rivers. The rivers lose their identity the moment they join the oceans. Similarly, the monks too let go of their desires, family relations, ranks and even the Varna to which they belonged upon joining the order of Buddhist Monks.



Time Travel

From groups of two. Imagine that one of you is a Buddhist Monk living during the time of Buddha and the other person enacts Buddha. Now, enact Buddhist Monk's discussion with Buddha on the four noble truths of life.

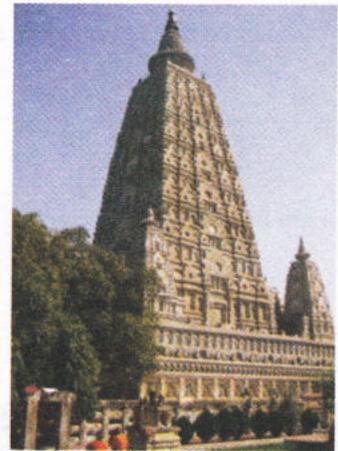


Fig. 7.16: Mahabodhi Temple at Bodh Gaya

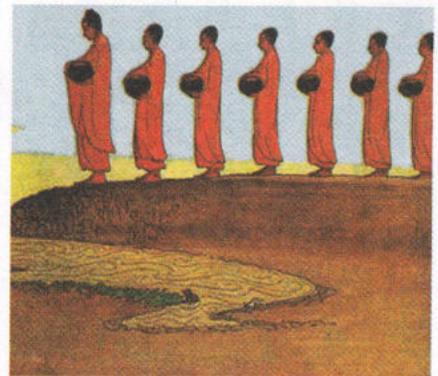


Fig. 7.17: Buddhist Sangha



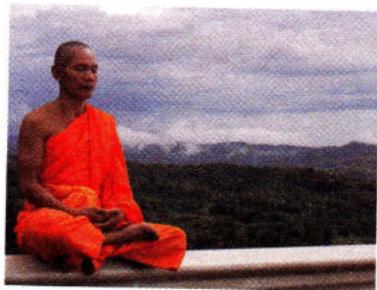


Fig. 7.18: A Buddhist Monk

The rules regarding the Buddhist *sangha* were mentioned in Vinaya Pitaka. We come to know from this scripture that the *sangha* was organised on democratic lines. Membership was open to all persons (irrespective of caste) above fifteen years of age. Permission of parents or guardians was mandatory for it. Children had to seek permission of their parents and slaves that of their masters. The persons working for king, had to seek his permission and debtors that of creditors. Women could also join *sangha* with the permission of their husbands. There were separate branches of *sanghas* for men and women.

Both men and women, who joined the *sangha*, led simple lives. They devoted most of their time in meditation. They went to villages and cities to beg for food during fixed hours. That is why, they came to be known as *bhikkhus* and *bhikkhunis* (the Pali words for beggar). All the members of *sangha* enjoyed equal rights. They taught others and helped one another. All disputes within the *sangha* were settled by holding meetings.

The Buddhist *sangha* was the first organisation of the monks in the world. It made an extremely important contribution in the spread and propagation of Buddhism. It produced great scholars who wrote down the teachings of Buddha and also composed beautiful poems describing their life in the *sangha*.

Monasteries

Both the Buddhist and Jain monks and nuns would wander from place to place throughout the year to preach the people. Since it was very difficult to travel during the rainy season, it was the only time they stayed in one place. Thus, during the four months of the rainy season, they lived in natural caves in hilly areas or in temporary shelters in gardens built for them by their supporters.

With the passage of time, the need for more permanent shelters was felt and the monasteries were built. They came to be known as *Viharas*. The earliest *Viharas* were made of wood and then of bricks. Some, particularly in Western India were even in caves dug out in hills.

Generally, a rich merchant or a landowner or a king donated land for the construction of the *Vihara*. The local people used to gift food, clothing and medicines to monks and nuns. In return, the monks and nuns taught the people.

Undoubtedly, the *sangha* and the monasteries helped greatly to make Buddhism a prominent religion of the world.

Varnashrama System

Around the period when Jainism and Buddhism were gaining popularity, the *Brahmins*, also evolved a system. It came to be known as *Varnashrama* system or the system of *ashramas*. It should be kept in mind that here the word *ashrama* does not denote a place where people live and meditate. It means a stage of life. Under this system, the life span of a person was divided into four *ashramas*, i.e., the *Brahmacharya*, *Grihastha*, *Vanaprastha* and *Samnyasa Ashrama*.



Fig. 7.19: Monasteries



 Brahmacharya Ashrama Fig. 7.20	At this stage, the Brahman, Kshatriya and Vaishya people were expected to lead simple and discipline lives and study the vedas.
 Grihastha Ashrama Fig. 7.21	At this stage, after marriage, they perform their duties of householders.
 Vanaprastha Ashrama Fig. 7.22	At this stage, they were supposed to live in the forest and meditate.
 Samnyasa Ashrama Fig. 7.23	At this stage, they had to detach themselves completely from all the worldly bonds and become a Samnyasi.

Table 7.1



In Other Lands

Zoroaster was a renowned prophet of Iran. His teachings are comprised in Zend Avesta. This seems to be much close to the Vedas in its language and practices. "Good thoughts, good words and good deeds" are the basic teachings of Zoroaster. As it becomes clear from a verse found in Zend Avesta.

"Lord, grant strength and the rule of truth and good thinking, by means of which one shall create peace and tranquillity."

Zoroastrianism remained a major religion Iran for more than a thousand years. Later, some Zoroastrians left Iran. They reached India and settled down in the coastal towns of Gujarat and Maharashtra. The Parsis of today are their descendants.



Fig. 7.24: Zoroaster



Event	Date
1. The Upanishads were composed	800-500 BC
2. Rise of Jainism and Buddhism	6th century BC
3. Mahavira Swami was born	599 BC
4. Mahavira Swami passed away	527 BC
5. Writing down of the Jain texts	Around 1500 years ago
6. Gautam Buddha was born	563 BC
7. Gautam Buddha passed away	483 BC





Let Us Recall

Upanishad: It denotes pupil's sitting near his guru or teacher.

Tirthankaras: These are the religious teachers of Jainism.

Pali. It is the a language spoken by the masses.

Ahimsa: It mean non-violence, *i.e.*, not hurting or killing living beings.

Jina: It refers to the conqueror.

Jaina: It refers to the followers of the Jina.

Buddha: It refers to the enlightened one.

Tanha: It means thirst or desire.

Sangha: It is an association of those who left their homes to gain true knowledge.



A. Choose the correct answer.

- Which one of the following statements is true about Upanishads?
 - there are 104 Upanishads.
 - it is a culmination of ancient Indian philosophical ideas of the *atman* and *brahman*.
 - these do not form a part of later Vedic texts.
 - there is no mention of women thinkers in Upanishads.
- Which of the following religions were motivated by the Upanishads?
 - Christianity
 - Jainism and Buddhism
 - Hinduism
 - Sikhism
- Mahavira belonged to which group of Varnas?
 - Kshatriya
 - Vaishya
 - Shudra
 - Brahmana
- The rules regarding Buddhist *sangha* were mentioned in:
 - Vedas
 - Ramayana
 - Vinaya Pitaka
 - Inscriptions
- Which of the following teachings is common to Jainism and Buddhism?
 - both of them stood for women emancipation.
 - both favoured the principle of non-violence.
 - both denied the existence of God.
 - both of them stood against *Sati pratha*.
- In which *ashrama*, men were expected to lead a simple and a disciplined life?
 - Brahmacharya*
 - Grihastha*
 - Vanaprastha*
 - Samnyasa*

B. Answer the following questions.

1. Discuss the causes of the rise of Jainism and Buddhism.
2. Write a short note on the preachings of Mahavira Swami.
3. Account for the causes of success of Jainism.
4. Discuss the main teachings of Mahatma Buddha.
5. Describe the ways in which Gautam Buddha tried to spread his message to the people.
6. Account for the causes of the rapid spread of Buddhism.

C. State whether the following statements are true or false.

1. The Upanishadic thinkers believed that *atman* and *brahman* were ultimately one.
2. There are 108 Upanishads composed by several learned saints and sages.
3. Gautam Buddha encouraged animal sacrifices.
4. Buddha delivered his first sermon at Rajgriha.
5. Mahavira was the 23rd *Tirathankara* of Jainism.
6. The teachings of Jainism are compiled in *Tripitakas*.

D. Fill in the blanks.

1. _____ was the most outstanding grammarian.
2. The followers of Jainism were known as _____.
3. Jainism was divided into two sects namely, _____ and _____.
4. According to _____, Nirvana is the ultimate objective of human life.
5. Buddha delivered his first Sermon at _____.

1. Individual Activity

Make a list of four teachings of Jainism and Buddhism each.

2. Group Discussion

Let students try to find out how the teachings of Jainism and Buddhism are important even today.



8



The First Empire: Ashoka, The Emperor who gave up War



Fig. 8.1: Ruins of Mauryan Empire

The Mauryan Empire was the first and the largest empire of ancient India. Its establishment marks the passage of Indian history from darkness to light. The advent of the Mauryan period functions like a lighthouse in the chronology of Indian history.

An Empire and an Emperor

We have studied a lot about kingdoms in previous chapters. The present chapter deals with an empire. You should know that a very big kingdom is called **an empire** and its ruler is known as **an emperor**.

Difference Between a Kingdom and an Empire

There are some major differences between a kingdom and an empire. As the empires are larger than kingdoms, the emperors need more resources than kings. Comparatively, big armies are needed to protect empires. A large number of officials are appointed to collect the taxes. They also help in running the administration smoothly.

Dynasty

It is worth mentioning that a series of rulers, all belonging to the same family, is known as **dynasty**. The Mauryas are called a dynasty. Chandragupta, his son Bindusara and Bindusara's son Ashoka were the three outstanding rulers of the Maurya Dynasty.

Chandragupta Maurya

The Mauryan Empire was founded by Chandragupta Maurya more than 2300 years ago. He, with the help of Chanakya, or Kautilya, a



Fig. 8.2: Chandragupta Maurya



wise man, overthrew the Nandas and established the Mauryan Dynasty. Many of Chanakya's ideas were written down in Arthashastra. Arthashastra throws ample light on the principles of politics and the art of government. It also tells us about life, society and administration under the Mauryan rulers.

Chandragupta was a great warrior. He built up a vast empire. It included Eastern, Western and North-Western India and went up to Deccan. It was the first historical empire of India.

Bindusara

Chandragupta Maurya ruled for about 25 years. He was succeeded by his son Bindusara. According to the Jain tradition, Chandragupta Maurya gave up his throne for his son Bindusara and became a Jain monk. Bindusara too, ruled for about 25 years. He assumed the title of 'Amitraghata' (the slayer of the foes). He was succeeded by his son, Ashoka, the great.

Ashoka

Bindusara was succeeded by his son Ashoka, one of the greatest rulers of India. He took the titles of 'Devanampriya' and 'Priyadarshi'.

Conquest of Kalinga

Ashoka inherited a vast empire. From Ashoka's Rock Edict XIII, it appears that the conquest of Kalinga was the first and the last victory of his life. He accomplished this victory as a king after eight years of his rule in 261 BC.

Causes of the Conquest

1. Kalinga was the ancient name of Coastal Odisha. It was an independent state on the border of the vast Mauryan Empire. Ashoka wanted to make it a part of his empire.
2. Kalinga controlled both the land and sea routes to Southern India.
3. Kalinga was an important centre of cotton textile. It could bring prosperity to the empire.
4. Kalinga was a powerful state. its ever increasing power could endanger the security of the Mauryan Empire.

Thus, Ashoka, with a huge army invaded Kalinga. The Kalingans fought very bravely but were defeated. Ashoka won the war. The Ashokan Rock Edict XIII tells us that over one lakh people were killed in the war, several lakhs perished and a lakh and a half were made prisoners.

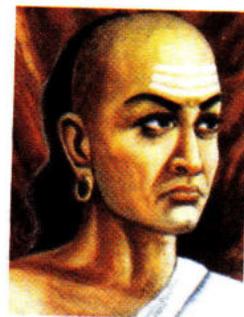


Fig. 8.3: Kautilya, writer of Arthashastra



Fig. 8.4: Bindusara



Fig. 8.5: Ashoka



Do You Know

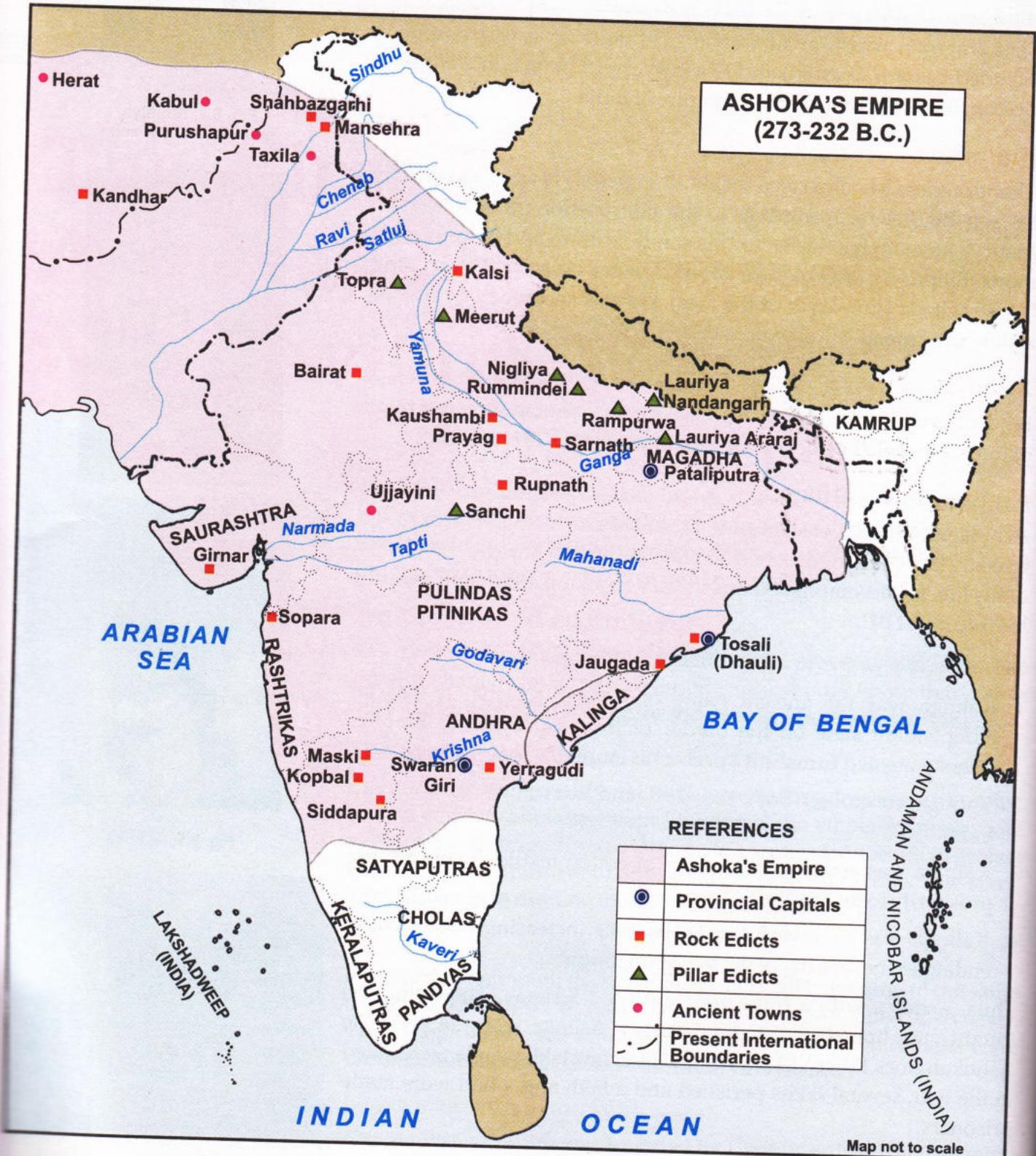
Ashoka's empire stretched from present-day Pakistan, Afghanistan in the west, to the present-day Bangladesh and the Indian state of Assam in the east, and as far south in northern part of Kerala.



Effects Of The Kalinga War

The Kalinga War left a deep effect on Ashoka's life and Indian history as well.

1. It expanded the Mauryan Empire. Kalinga became a province of the Mauryan Empire with capital at Toshali.



Map 8.1: Empire of Ashoka

2. The terrible bloodshed that occurred in the war, shook the very inner self of Ashoka. He was so horrified that he decided not to fight any more wars. Thus, he is the only king in world history to give up the policy of conquest.
3. Ashoka gave up hunting, meat-eating or enjoying the pleasures of life. He adopted the path of non-violence, charity, truth, love and brotherhood.
4. Ashoka devoted himself fully to the works of public welfare. He took all possible steps to sort out the problems and grievances of the people.
5. Ashoka became an enthusiastic follower and propagator of Buddhism. He adopted the Buddhist principle of non-violence in practice.
6. He established friendly relations with other countries.
7. The conquest of Kalinga inspired Ashoka to establish *Dhamma*.
8. In a way, the Kalinga War caused the decline of the empire. As the policy of war and warfare was abandoned, the Mauryan army could not maintain its ability and efficiency. It weakened and failed to face the Greek invasions successfully.

Thus, the Kalinga war was the last political event of Ashoka's reign.

Ashoka's Dhamma

The most significant achievement of Ashoka as a ruler was his *dhamma*. He was the first ruler in the world history who adopted the policy of 'Dhamma Vijay' in place of 'Dig Vijay' and tried his best to uplift the moral standard of his people.

Description of Kalinga War as Found in Ashokan Inscription

Ashoka, in his Rock Edict XIII tells us, "Eight years after becoming King I conquered Kalinga. About a lakh and a half people were captured. More than a lakh of people were killed.

This filled me with sorrow. Why? Whenever an independent land is conquered, lakhs of people die, and many are taken prisoner, Brahmins and monks also die. People who are kind to their relatives and friends, to their slaves and servants die, or lose their loved ones.

That is why I am sad and I have decided to observe *dhamma* and to teach others about it as well.

I believe that winning people through *dhamma* is much better than conquering them through force. I am inscribing this message for the future, so that my son and grandson after me should not think about war. Instead, they should try to think about how to spread *dhamma*."*

* Quoted from R. Thaper's 'Ashoka and the Decline of the Mauryas', P. P. 255-56.



Fig. 8.6: Kalinga War



Time Travel

Imagine that you were one of the soldiers in Ashoka's army who participated in the Kalinga War and survived. Now, have a conversation with your children (enacted by your friends) about your thoughts and feelings after the war.



Fig. 8.7: Ashokan Pillar at Kolhua, near Vaishali

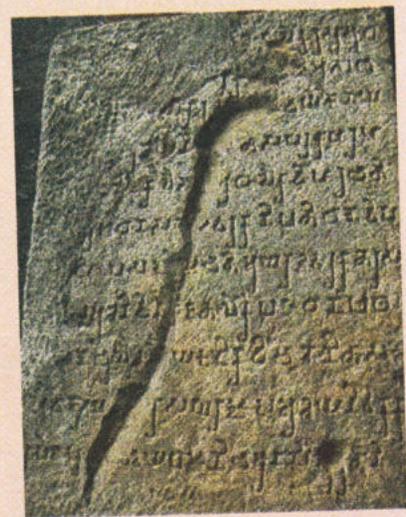


Fig. 8.8: Ashokan Inscription



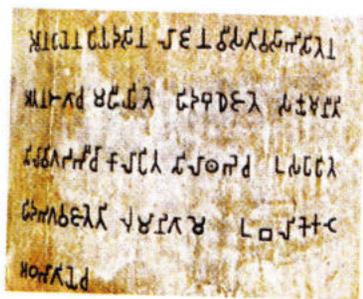


Fig. 8.9: The Lumbini Inscription

Factors leading to the establishment of *dhamma*

There were a number of factors that made him uncomfortable, thus, inspiring to establish *dhamma*.

1. His subjects professed various religions. It resulted into conflicts many times.
2. People did not treat their slaves and servants kindly.
3. There was a lack of mutual love and amity among the family members and also among neighbours.
4. Ashoka was a kind-hearted ruler. He loved his subjects. He felt that just as a father endeavours to teach his children so he had a duty to instruct his subjects.

Thus, Ashoka, in the form of *dhamma*, laid the foundation of such a universal religion as acceptable to all without any distinction of caste and creed.

Main Principles of Dhamma

Following were the main principles of Ashoka's *dhamma*:

1. Respect to elders

Everybody should pay regards to elders. One should respect parents, teachers, elders, state officials, brahmins, monks, etc.

2. Love to youngers

The elders should treat the youngers kindly and affectionately.

3. Compassion for all

One should treat all creatures with compassion. One should be gentle with slaves and servants.

4. Truthfulness

One should always speak the truth and should abstain from telling a lie.

5. Sinless life

One should try to lead sinless and pure life.

6. Ahimsa

One should abstain from killing and injuring the living creatures.

7. Charity

One should give charity to scholars, brahmins and monks.

8. True ceremonials

One should give up the false ceremonials associated with birth, death, marriage, etc., One should adopt the true ceremonials like amity, charity, kindness, etc.

9. Religious tolerance

It is not good to praise one's own religion and criticise another's. One should try to understand and respect each other's religion.

10. Self-appraisal

One should evaluate one's good and bad deeds from time to time.

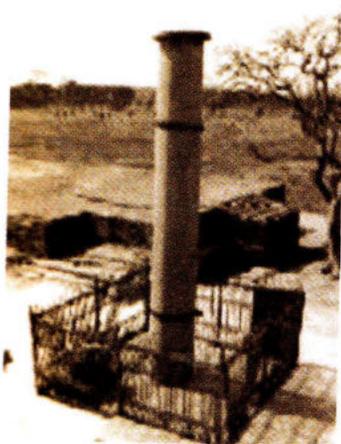


Fig. 8.10: Ashokan Pillar at Lumbini

Thus, Ashoka's *dhamma* was a practical code of social ethics. It inspires to lead a pure and high moral life.

Measures Adopted to Spread Dhamma

Ashoka tried to spread *dhamma* by means like setting his personal example, organising pilgrimages, appointing the *dhamma* Mahamattas (Mahamatras) and by Rock Edicts, etc. He appointed Dhamma Mahamattas, who went from place to place teaching people about *dhamma*. Ashoka got his messages inscribed on rocks and pillars and got them erected on important roads and places so that the common people passing by them could read them. He instructed his officials to read his message to those who were not able to read it themselves. Ashoka sent **messengers** to other countries like Syria, Egypt, Greece and Sri Lanka in order to spread ideas of *dhamma*.

Significance of Dhamma

Dhamma proved to be a boon both for society and the empire in the following ways:

1. It served as an important means to resolve different problems of the empire.
2. It became an important part of emperor's administrative policy. Under the influence of *dhamma*, he built roads, planted trees along their sides, dug wells and built rest houses. He opened hospitals at various places to provide medical facilities to human beings and animals as well.
3. It raised the moral standard of the people by curtailing social evils.
4. It helped generate the atmosphere of amity and brotherhood.
5. *dhamma* encouraged national integration putting forth a right solution to various social, religious and political problems.

Ashoka and Spread of Buddhism by Ashoka

Ashoka occupies a very significant place in history as a Buddhist ruler. He devoted all his power and resources in the propagation and spread of Buddhism.

Ashoka took following steps in order to spread Buddhism:

1. He inspired the masses to follow Buddhism by his personal example. He gave up the pleasures of life and abandoned meat-eating and hunting.
2. He declared Buddhism a state religion. Thus, people were automatically attracted towards it.
3. He organised several pilgrimages to Buddhist holy places.
4. He himself followed the Buddhist principle of *ahimsa* practically. He banned animal sacrifice on the occasion of the religious festivals.

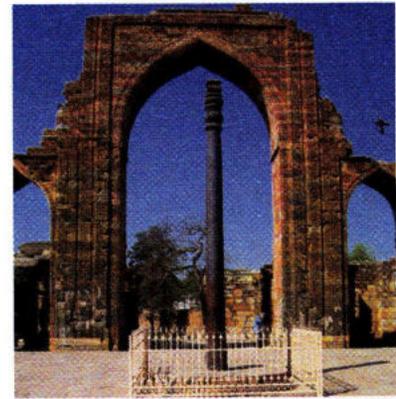


Fig. 8.11: Ashokan Pillar at Mehrauli, Delhi

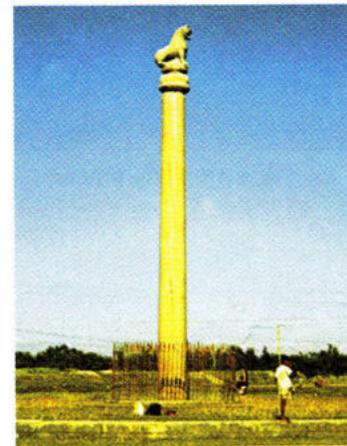


Fig. 8.12: Ashokan Pillar at Lauriya, Nandargarh



Fig. 8.13: Sanchi Stupa, built by Ashoka





Fig. 8.14: The Gateway of Sanchi Stupa

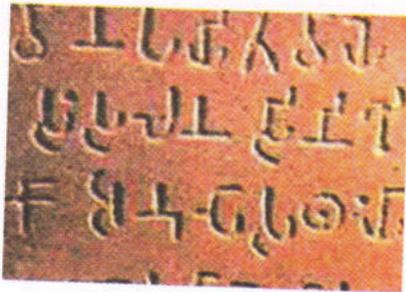


Fig. 8.15: Pillar Edicts

5. Ashoka resorted to wide propagation of Buddhism. He got engraved the principles of Buddhism on pillars, rocks, stones, etc. and got them erected on important roads and places of his empire. He sent his missionaries in foreign countries like Sri Lanka, Burma, Nepal etc. to propagate Buddhism.

Thus, Buddhism became a world religion because of the ceaseless efforts made by Ashoka.

Ashokan Inscriptions

Ashoka was the first ruler in the history of India who spoke directly to his people through his inscriptions. The inscriptions on rocks are called **Rock Edicts** and those on pillars are known as Pillar Edicts. The inscriptions have also been found on the walls of the caves. The lions that figure on our currency notes and coins were carved in stone and placed on top of a huge stone pillar at Sarnath.

The Ashokan Inscriptions were written in four different scripts *i.e.* Brahmi, Kharoshti, Aramaic and Greek. It is worth mentioning that most of the modern Indian scripts have developed from the Brahmi script over hundreds of years.

Undoubtedly, the Ashokan Inscriptions or edicts occupy a very significant place in the history of India. To quote the words of Pandit Jawaharlal Nehru, the first Prime Minister of India, "His edicts (instructions) still speak to us in a language we can understand and we can still learn much from them."

The Mauryan Administration

The Mauryan rulers established an efficient and benevolent administration. As the empire was very large, different parts were ruled differently.

Central Administration

The king was the highest authority. He was vested with large powers and privileges. He carried out his administration with the assistance of the ministers. The Prime Minister, *Purohita* and *Senapati* were some of the important central ministers. Besides the ministers, there were some other high officials to run the administration smoothly. They were known as *Adhyakshas* or Superintendents. Kautilya mentions a large number of *Adhyakshas* such as those of gold superintendent (*Swarna Adhyaksha*), storehouses superintendent (*Bhandargriha Adhyaksha*) and commerce superintendent (*Vanijya Adhyaksha*), etc. Many of these officials were given salaries. Ashoka appointed a new class of officers known as '*Dhamma Mahamattas*'. The area around Pataliputra was under the direct control of the emperor. He supervised all the officials with the help of royal family members and senior ministers.



Our Heritage



Fig. 8.16: Lion Capital, Sarnath (National Emblem of India)

National Emblem of India has been adopted from the four-lion capital of the Ashokan Pillar at Sarnath.

Provincial Administration

The vast Mauryan Empire was divided into five provinces:

1. Prachi or Eastern Province (capital Pataliputra)
2. Uttarpatha or North-Western Province (capital Taxila)
3. Avanti *Rashtra* or Western Province (capital Ujjain)
4. Dakshinpatha or Southern Province (capital Suvarnagiri)
5. Kalinga Pranta (capital Toshali).

Each province was ruled from the provincial capital.

Governor was the chief of the provincial administration. He was known as 'Kumar' or 'Aryaputra'. The office being very important was generally given to the royal princes. For example, Ashoka was appointed as the governor of Avanti *Rashtra* and his brother Sushima that of the north-western province. The centre exercised a sufficient control over provincial administration. Perhaps, local customs and rules were followed in carrying out the administration.



Fig. 8.17: Taxila

Megasthenese's Description Of the Emperor and Pataliputra, the Capital City

Megasthenese was a Greek historian who was sent as an ambassador to the court of Chandragupta Maurya by Seleucus. He stayed here from 302 BC to 298 BC. He has given a vivid account regarding the emperor and his capital city, Pataliputra, in his world renowned work 'Indica'. While writing about the emperor, he, states:

"The occasions on which the emperor appears in public are celebrated with grand royal processions. He is carried in a golden palanquin. His guards ride elephants decorated with gold and silver. Some of the guards carry trees on which live birds, including a flock of trained parrots, circle about the head of the emperor. The king is normally surrounded by armed women. He is afraid that someone may try to kill him. He has special servants to taste the food before he eats. He never sleeps in the same bedroom for two nights."

While giving an account of Pataliputra (modern Patna) he wrote:

"This is a large and beautiful city. It is surrounded by a massive wall. It has 570 towers and 64 gates. The houses of two and three storeys are built of wood and mud bricks. The king's palace is also of wood and decorated with stone carvings. It is surrounded with gardens and enclosures for keeping birds."



Fig. 8.18: Pataliputra

DISTRICT ADMINISTRATION

Provinces were subdivided into districts known as 'Ahar' or 'Vishya'. The Pradeshika was the head of district administration. There were also officials, rajjuka and yukta in district administration.



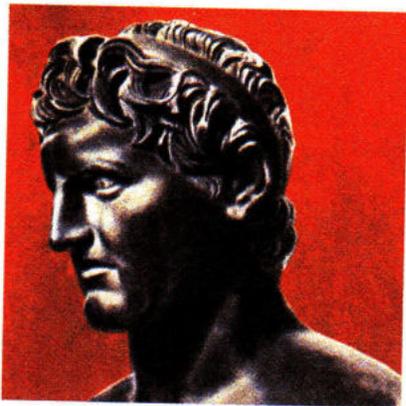


Fig. 8.19: Seleucus Nicator



Fig. 8.20: The Mauryan Army

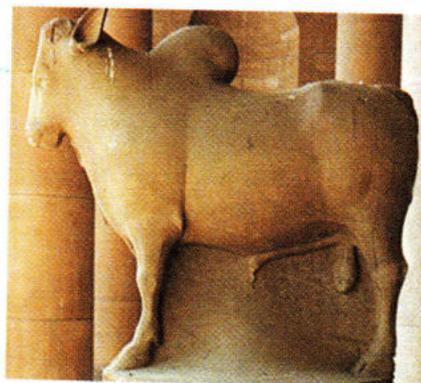


Fig. 8.21: The Rampurwa bull
It is an example of Mauryan stone sculpture, found from Rampurwa. Now, it has been placed in Rashtrapati Bhavan

Village Administration

Village, the smallest unit of the administration, enjoyed a considerable autonomy. The head of the village was known as *Gramik* or *Gramini*. Gram Sabha and village elders helped him to run the administration smoothly.

CITY ADMINISTRATION

Special attention was paid to the administration of the important cities like Pataliputra, Taxila, Ujjain, Toshali and Suvarnagiri, etc. Megasthenese (an ambassador sent to the court of Chandragupta by Seleucus Nicator, the Greek ruler of West Asia) tells that Pataliputra was administered by a council of thirty members. It was further divided into six boards each consisting of five members. Each board was allotted some specific responsibilities towards the administration of the city. They were:

1. **Board of Industrial Arts:** It was concerned with industries and arts.
2. **Board of Foreigners:** It looked after the needs of the foreigners coming to the city.
3. **Board of Census:** It prepared the details of birth and death in the city.
4. **Board of Trade and Commerce:** It regulated trade and commerce, inspected weights and measured and issued licenses to the traders.
5. **Board of Quality Assurance:** It ensured the quality of the manufactured goods.
6. **Board of Taxation:** Its main function was to collect taxes or sold goods at the rate of 10 per cent of their price.

The city council also looked after the maintenance and repairs of roads, markets, hospitals, temples, educational institutions, water supply and ports.

Military Administration

Chandragupta, the first Mauryan Emperor, organised a large army in order to extend and secure his empire. His army consisted of 6,00,000 infantry, 30,000 cavalry, 9,000 elephants and 8,000 chariots. A council of thirty members divided into six boards looked after the military administration. The soldiers were paid in cash and were rewarded as well.

Spy System

An efficient espionage system was organised for the prosperity and security of the empire. Messengers went to and fro and spies kept a watch over state officials. They also kept a tag of criminals, enemies and renegades.

Sources of State Income

Various taxes were extracted from farmers, herders, craftspersons and



traders living in villages and towns. Land revenue, one-fourth to one-sixth of the produce, was the most important source of state income. The state levied taxes on all the manufactured goods. The state had sufficient income from mines, forests, pasturelands, trade, etc. The state made efforts to control roads and rivers, important for transport and to collect available resources as tax and tribute. We come to know from the Arthashastra that the north-west was important for blankets whereas South India was known for its gold and precious stones. Perhaps, these resources were collected as tribute.

Tribute

We should know that taxes were collected on a regular basis. However, tribute was not a regular tax. It was collected as and when it was possible from people who gave a variety of things more or less willingly. For example, people living in forested regions were more or less independent. They were supposed to provide elephants, timber, honey and wax to Mauryan state as tribute. Thus, the Mauryan Emperors had established an efficient and well-organised administration.

Coins



Fig. 8.22: Indo-Greek



Fig. 8.23: Shakas



Fig. 8.24: Kushanas



Fig. 8.25: Satavahanas

LOOKING ONWARDS

With the decline of the Mauryan Empire around 2200 years ago, various new kingdoms started emerging in its place. Kings known as the Indo-Greeks ruled for about one century in the north-west and in parts of North India. They were followed by the Shakas, Central Asian people. The Shakas established their kingdoms in the North-West, North and Western India. Some of these kingdoms remained in existence for about 500 years till they were overthrown by the Guptas. The Kushanas followed the Shakas about 2000 years ago.

Pushyamitra Shunga, a general of the Mauryas, established a kingdom in the north and in parts of central India. Kanvas, another dynasty, followed the Shungas. Some rulers belonging to other families established their kingdoms and remained in existence till the Gupta Empire was established around 1700 years ago.

The Shakas, also known as Scythians, established their authority over parts of Western India. They waged many battles with the Satavahanas. The Satavahanas had established their kingdom in western and parts of central India about 2100 years ago. It remained in existence for about 400 years. The Vakatakas, a new ruling family, strengthened their power around 1700 years ago and soon they established themselves strongly in central and western India.

The Cholas, Cheras and Pandyas ruled in South India between 2200 and 1800 years ago. The Pallavas and the Chalukyas established their large kingdoms in South India around 1500 years ago. Several other kingdoms and kings were also in existence.

Several other developments such as the spread of agriculture, growth of new towns, craft production and trade were taking place as well. Trade and commerce witnessed a substantial growth. Land routes within the subcontinent and outside were discovered by the traders. Sea routes to West-Asia, East Africa and South-East Asia were also explored. Architecture registered a significant growth. A number of new buildings, including the earliest temples and stupas were built. Several books were written and many scientific discoveries were accomplished.





In Other Lands

The Great Wall of China was built somewhat before the time of the Mauryan empire about 2400 years ago. It was built by emperor Shi-Hwang-ti to protect the northern frontier of the empire from pastoral people. As the frontiers of the empire kept shifting, additions to the wall continued over a period of 2000 years. Made of stones and bricks, the wall is about 6400 km long, with a road along the top. Thousands of people worked to build the wall. Watch towers have been made all along at distances of about 100-200 m. The Great Wall of China is considered as one of the great wonders of the world.

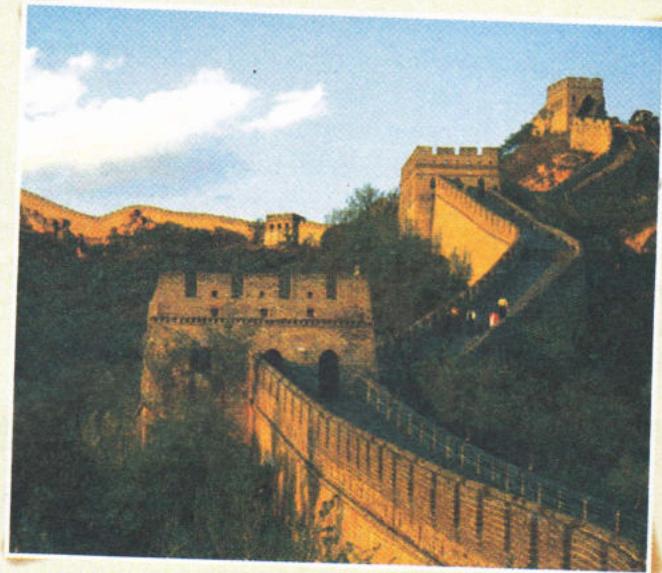


Fig. 8.26: The Great Wall of China



Dates to Remember

Event	Date
1. Beginning of the Mauryan Empire	More than 2300 years ago
2. The conquest of Kalinga was accomplished in	261 BC
3. Megasthenese stayed in the Mauryan court	302 BC to 298 BC



Let Us Recall

Empire: It is larger than kingdom. It needs big armies and a large number of officials.

Capital: It refers to the city which is used as the centre of the government.

Province: It is an administrative division into which a country is divided for the purpose of government.

Dynasty: It is a series of rulers all belonging to the same family.

Messenger: It refers to the a person who carries a message. Messengers went to and fro in Mauryan Empire.

Dhamma: It is the pali (Prakrit) form of the Sanskrit word *dharmā*.

Devanampriya: It refers to the beloved of the gods.

Priyadarshi: It is a handsome looking person.

Edicts: These are the orders issued by a ruler.

Dig-Vijay: It literally means victory in all directions.



A. Choose the correct answer.

- Series of rulers, all belonging to the same family:
(a) kingdom (b) dynasty
(c) empire (d) tribe
- The Ashokan Inscriptions were written in which language?
(a) Sanskrit (b) Pali
(c) Greek (d) Arabic
- Name a new class of officials appointed by Ashoka.
(a) *Senapati* (b) *Adhyakshas*
(c) Prime Minister (d) *Dhamma Mahamattas*
- Who was the chief of the provincial administration under Mauryan Empire?
(a) Governor (b) Pradeshika
(c) Aryaputra (d) King
- Tribute refers to which of the following?
(a) the tax which was collected regularly.
(b) the tax which was collected as and when required.
(c) the tax which was collected as a source of income.
(d) the tax which was collected to run the administration.

B. Answer the following questions.

- Give a brief account of Chandragupta Maurya.
- Discuss the problems that Ashoka wanted to solve by introducing *Dhamma*.
- Why did Ashoka want to invade Kalinga?
- How did the conquest of Kalinga influence the personal life of Ashoka?
- What were the means adopted by Ashoka to spread the message of *Dhamma*?
- Throw light on the city administration under Mauryan Emperors.
- In what ways, the orders of Ashoka would have improved the condition of slaves and servants?
- What measures did Ashoka adopt in order to spread Buddhism?

C. Fill in the blanks.

- The Mauryan Empire was the _____ and the largest empire of an ancient India.
- Provinces were subdivided into districts known as _____.



3. Bindusara was succeeded by his son _____.
4. Officials collected _____ from the area under direct control of the ruler.
5. Royal princes often went to the provinces as _____.
6. The state made efforts to control _____ and _____ important for transport.
7. The people living in forest regions were supposed to provide _____ and _____ to Mauryan state.
8. Seleucus Nicator was a _____ ruler of West Asia.

D. Match the following.

Column A

1. Chandragupta Maurya
2. Bindusara
3. Ashoka
4. Kalinga
5. Avanti *Rashtra*
6. Dakshinapatha
7. Ahar

Column B

- (a) Toshali
- (b) Ujjain
- (c) District
- (d) Kautilya
- (e) Amitraghata
- (f) Devanampriya
- (g) Suvarnagiri

1. Group Discussion

Students can discuss in groups that why the lions are shown on our currency notes. Also find out one other object on which you see them.

2. Individual Activity

Make a list of at least two commands you would like to issue if you had the power to inscribe your orders.



9



Vital Villages, Thriving Towns

It has already been discussed in a preceding chapter, the first **urbanisation** started in India during the Harappan period. You should remember that the Harappan Civilisation was an urban civilisation. It met its decline around 1500 BC with the advent of the Aryans. As the Aryans were a rural folk, the Harappan towns declined one by one and remained extinct during the coming 1000 years.

New towns and cities started developing during the 6th century BC, which was the age of Buddha. Hence, the period from 6th century BC to 4th century BC is generally known as the second urbanisation in India. The period witnessed the growth of significant and flourishing towns and cities like Pataliputra, Kaushambi, Shravasti, Kapilvastu, Ayodhya, Vaishali, Rajagriha, etc. **Fortifications**, magnificent royal palaces, beautiful residences of the nobility, planned layouts, regular roads and streets, temples, monasteries, etc., were some of the salient features of these towns and cities.

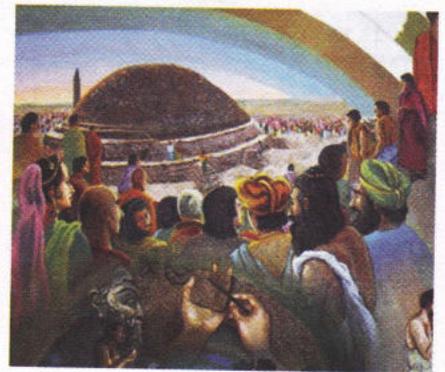


Fig. 9.1: Vaishali

Increasing Use of Iron Tools: Agricultural Intensification

As has already been mentioned, the use of iron began around 3000 years ago in the subcontinent. Some of the largest collections of iron tools and weapons have been discovered from the Megalithic burials. Iron tools, in particular, iron axes and iron ploughshares came in wider use around 2500 years ago. It has already been discussed in Chapter 6 that the iron ploughshare proved to be of great significance for increasing agricultural production.



Fig. 9.2: Iron tools

Other Means to Augment Production: Irrigation

With the wider use of iron and the invention of new tools and implements more and more land was brought under cultivation. It resulted into agricultural intensification. New varieties of corn and





Do You Know

The Tamil poets of Sangam Period, both men and women, came from various professions and classes of society, i.e., kings, learned scholars, noble people, accountants, peasants, physicians, traders, teachers, goldsmiths, metal smiths and cattle herders.

fruits began to be cultivated. While new tools and the system of transplantation helped increase production, irrigation was also used. Canals, wells, tanks and artificial lakes, etc., were built during this time for irrigational purposes.

As has already been discussed, with the rise of large kingdoms, the kings needed money for armies, palaces, forts, etc. Hence, they demanded taxes from farmers. Thus, the farmers had to increase production to pay taxes. This became possible with irrigation. The kings provided money and planned irrigation works. Labour was provided by the people. Consequently, production increased and so did the revenue. The farmers were also benefited because crop production became more certain.

Dwellers of the Villages

At least three different types of people- (i) large landowners, (ii) ordinary ploughmen, and (iii) landless labourers, lived in most of the villages in the southern and northern parts of the subcontinent. In the Tamil region, large landowners were known as *Vellalar*; ordinary ploughmen as *Uzhavar* and landless labourers, including slaves as *Kadaiyiar* and *Adimai*.

Sangam literature: The collection of ancient Tamil literary compositions is known as Sangam literature. The composition of Sangam literature started around 2300 years ago. The word 'Sangam' is a Sanskrit word which means a group, an association or an assembly. The earliest works in Tamil were called Sangam because they were supposed to have been composed and compiled in assemblies of poets held in the city of Madurai. The Sangam literature initially included oral compositions which were later classified and compiled in the form of treatises. The Tamil terms like *Vellalar*, *Uzhavar*, *Kadaiyiar* and *Adimai* mentioned above are found in Sangam literature.

The village headman was known as the *Gramabhojaka* in the northern part of the country. The post of *Gramabhojaka* was hereditary. Generally, men from the same family held the position for generations. Usually, the *gramabhojaka* was the largest landowner of the village. He had a number of slaves and hired workers to cultivate his land. As he was very powerful, the king often made him responsible to collect taxes from the village. He had to perform administrative duties as well. He functioned as a judge and sometimes as a policeman also.

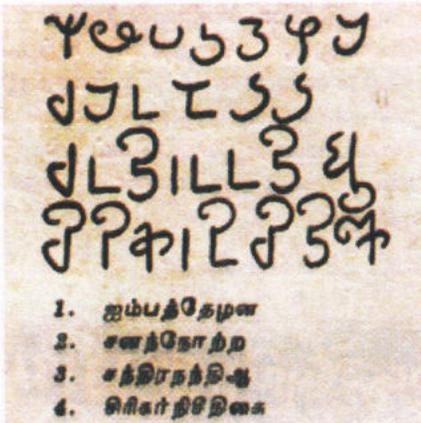


Fig. 9.3: A page from Sangam literature



Our Heritage

Sanskrit and Tamil literature are placed apart on lines of linguistic, racial and sectarian interpretation and argues that both are different and separate in the respective aspects. However, it is interesting and though provoking to note that historians have found out the traces of epics and purans in the ancient Tamil literature which is popularly known as Sangam literature. There is an extensive usage of Mahabharat incidences as simile, metaphor and comparison in the literature. Being the literature of the ancient India, they both have historical connections.

Besides the *Gramabhojaka*, there were other independent farmers known as *Grihapatis*. Most of them were small landowners. The landless men and women known as *dasa karmakara* also lived in the village. As they did not own land, they had to work on the fields owned by others to eke out their livelihood.

Some craftspersons like the blacksmith, potter, carpenter and weaver also lived in most of the villages.

How do the Stories, Travellers, Sculpture and Archaeology Help in Finding About Cities?

The stories, travellers, sculpture and archaeology help significantly in finding about cities. The Jatakas tell us about a number of cities. It is worth mentioning that the Jataka stories were perhaps composed by ordinary people. The Buddhist monks then wrote them down and preserved them. A Jataka story tells us about a poor man living in a city who by his wise plans gradually became a rich person.

Some other kinds of evidence too, help us in finding out about the lifestyle in some of these early cities. For example, sculptures help us significantly in this direction. Scenes depicting peoples' lives living in towns, villages and forests, were carved by the sculptors. Many of these sculptures were used as decoration pieces in decorating railings, pillars and gateways of buildings. Thus, the people visiting these buildings came to know about the city life.

As has already been discussed in Chapter 6, a number of cities developing around 2500 years ago, were capitals of the *mahajanapadas*. Some of these cities had massive fortification walls around them.

The archaeologists have discovered rows of pots or ceramic rings arranged one on top of the other in several cities. These are known as **ring wells**. Generally, these ring wells have been found in individual houses.

Scholars believe that they would have been used as toilets in some cases and as drains and garbage dumps in others.

It is worth mentioning that there are very few remains of palaces, markets or homes of common people. It seems that they would not have survived for long as they were made of wood, mud, brick and thatch. However, archaeologists are yet to discover some of them.

The accounts of sailors and travellers are also of great significance in finding out about early cities. Greek sailor has left one of the most detailed accounts of all the ports, he visited in India. He has given a vivid description of Bharuch, an important port of India.

Periplus's Account of Bharuch

We come to know from Periplus's account that 'Barygaza' was the Greek name for Bharuch. He tells us that as the gulf is very narrow at Barygaza, the sailors coming from the sea find it very difficult to navigate. The king used to employ skilled and experienced local

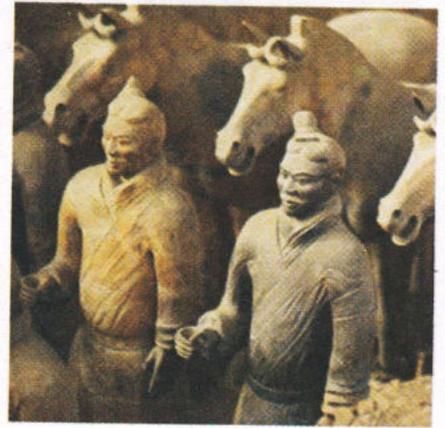


Fig. 9.4: Terracota-decorative pieces

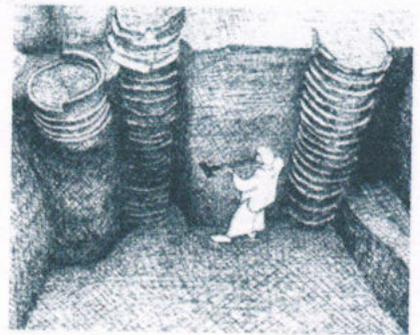


Fig. 9.5: A Ring Well found in Delhi



Time Travel

Travel back to the second urbanisation period. Imagine that you are a merchant who lived in this period. You have just finished sending a shipment from Bharuch. Give your friend a brief account of day's activities, including the scene of the port.





Fig. 9.6: Punch-marked coins

இன்பத் தமிழ்

தமிழுக்கும் அழகுதென்று பேர் - அந்தத்
தமிழ் இன்பத் தமிழ் எங்கள் உயிருக்கு நேர்
தமிழுக்கு நிலவென்று பேர் - இன்பத்
தமிழ் எங்கள் சமூகத்தின் விளைவுக்கு நீர்
தமிழுக்கு மணமென்று பேர் - இன்பத்
தமிழ் எங்கள் வாழ்வுக்கு நிரூபித்த ஊர்
தமிழுக்கு மதுவென்று பேர் - இன்பத்
தமிழ் எங்கள் உரிமைச் செம் பமிருக்கு வேர்

தமிழ் எங்கள் இளமைக்குப் பால் - இன்பத்
தமிழ் நல்ல புகழ்மிக்க புலவர்க்கு வேல்
தமிழ் எங்கள் உயர்வுக்கு வான் - இன்பத்
தமிழ் எங்கள் அசதிக்குச் சுடர் தந்த தேன்
தமிழ் எங்கள் அறிவுக்குத் தோள் - இன்பத்
தமிழ் எங்கள் கவிதைக்கு வயிற் த்தின் வாள்
தமிழ் எங்கள் பிறவிக்குத் தாய் - இன்பத்
தமிழ் எங்கள் வளமிக்க உளமுற்ற தீ

Fig. 9.7: An Excerpt from Sangam literature tells about barter system.



Fig. 9.8: Ruins of a Jain Shrine in Mathura

fishermen to help the steering in of the ships. The merchants brought special gifts like vessels of silver, singing boys, beautiful women, fine wines and fine cloth for the king.

Wine, copper, tin, lead, coral, topaz, cloth, gold and silver coins were the main imports of Barygaza. The items like plants from the Himalayas, ivory, agate, carnelian, cotton, silk and perfumes were some of its main exports.

Coins

Coins also help us greatly in finding out about early cities. The archaeologists have discovered several thousands of coins belonging to the period under consideration. The earliest coins discovered from a number of sites, are known as **punch-marked coins**. They have been accorded this name because of the designs which were punched on to the metal – silver or copper. Generally, the legends or writings on the coins state the name or title of king who issued the coins. These coins remained in use for about 500 years.

Other Means of Exchange

We come to know from the Sangam literature that barter system was also in use in trading activities. Under this system, different commodities were exchanged as required. For example, salt which was produced in large quantity along the sea coast, was exchanged for the white paddy.

Cities with a Number of Functions

The towns were small in size in the beginning. However, they grew in size as well as in numbers with the passage of time. In particular, when a town became the capital of a kingdom, it grew both in size and importance. A town gained importance as a centre of a particular craft or trade if some traders or craftsmen made it their dwelling place. Often a town came into significance because of several factors. Here can be cited the example of Mathura.

We should know that Mathura has been a renowned settlement for more than 2500 years. Being located at the crossroads of two major routes of travel and trade – from the north-west to the east and from north to south, it rose into significance. The city and several shrines as well were surrounded by high walls. The farmers and herders living in adjacent areas provided food for city people. Mathura was also a renowned centre of sculpture. Some specimens of extremely fine sculpture were produced here.

Mathura had the honour of becoming the second capital of the Kushanas around 2000 years ago. It was also an important religious centre of Buddhism, Jainism and Hinduism. There were many Buddhist monasteries and Jaina shrines. The worship of Krishna was in wide prevalence at Mathura.

The archaeologists have discovered a number of inscriptions on

surfaces such as stone slabs and statues from Mathura. These are generally short inscriptions which record the gifts made to **monasteries** and shrines. These gifts were made by kings and queens, officers, merchants and craftspersons living in the cities. We find mention of craftspersons such as goldsmiths, blacksmiths, weavers, basket makers, garland makers, perfumers, etc. in the inscriptions discovered from Mathura.

Crafts and Craftspersons

Different arts and crafts registered a good growth. Remains of the Northern Black Polished Ware suggest that extremely fine pottery was produced during the period 600 BC to 300 AD. As it is generally found in the northern part of the subcontinent, it is known as the Northern Black Polished Ware. Usually it is black in colour having a fine lustre.

Manufacture of cloth was also an important occupation. Both men and women were engaged in the work of spinning, weaving and dyeing of cloth. We find rules regarding spinning and weaving in the book 'Arthashastra'. They describe that spinning and weaving was done in workshops under the supervision of a special official. Widows, young women who were differently abled, nuns, mothers of courtesans, retired women servants of the king, women retired from service in temples were in particular, engaged in the work of processing wool, bark, cotton, hemp and flax. They were paid according to the quality and quantity of work. Women not allowed to leave their homes could send maid servants to bring the raw material from the superintendent and take the finished work back to him. In case a woman failed to complete her work, she was to pay a fine and her thumbs could be cut-off. Varanasi in the north and Madurai in the south were renowned centres of the manufacture of cloth. Both men and women were engaged in work in these centres. Dyeing was a flourishing craft in many towns of south India.

Guilds or Shrenis

The craftspersons and merchants were organised in various guilds known as *shrenis*. The **guilds** were strong and prosperous associations. They functioned like the modern banks and protected the interests of their members. For example, the guilds of craftspersons provided training, purchased raw material and distributed the finished product. Similarly, the guilds of merchants organised the trade. The chief of the guild was known as *Jesthaka*. He exercised full control over the members of the guild. The guilds resolved the disputes of their members. They also served as banks where rich persons deposited money. It was invested and part of interest was returned or used (as desired) to support religious institutions. The inscription from the Nasik cave reveals that two guilds of the weavers provided permanent endowment for the maintenance of a temple.

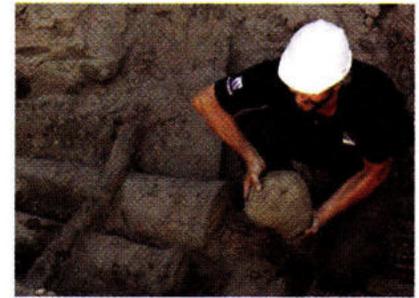


Fig. 9.9: An archaeologist discovering something from Mathura

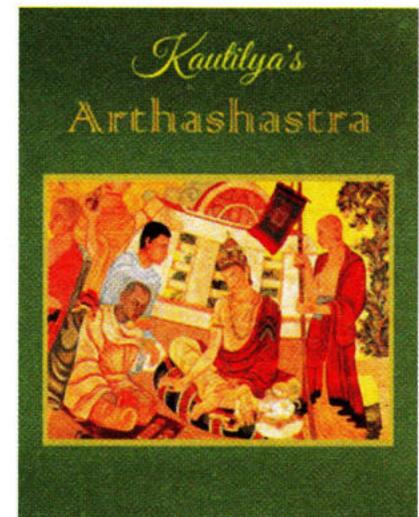


Fig. 9.10: Arthashastra





Fig. 9.11: A Roman Medallion found at Arikamedu

Case Study- Arikamedu

Arikamedu in Pondicherry (Puducherry), was a coastal settlement in between 2200 and 1900 years ago. Here the ships unloaded goods from distant lands. A huge brick structure, perhaps a warehouse, was discovered from the site. Remains of pottery from the Mediterranean region such as **amphorae** (tall double-handled jars that contained liquids like wine or oil) and stamped red-glazed pottery, have been discovered from the site. The stamped red-glazed pottery was known as Arretine Ware. It derived its name from a city in Italy. Roman designs have also been found on pottery which was made locally. Some other Roman items such as lamps, glassware and gems, have also been discovered from the site. Some inscriptions in Brahmi, which was used to write Tamil, have been found on several pieces of pottery. The work of dyeing was perhaps practised on a large-scale. Discovery of several small tanks suggest that they were probably used to dye cloth. Bead-making was also a flourishing occupation. Beads were made from semi-precious stones and glass.



In Other Lands

Rome is one of the oldest cities in Europe. It was a contemporary of the cities that developed in the Ganga Valley. Rome was the capital of Roman Empire, one of the largest empires of the world. It extended across Europe, North-Africa and West Asia. Augustus was one of the most important Roman Emperors. He ruled around 2000 years ago. He used to say that he found Rome a city of brick and converted it into a city of marble. He and his successors built magnificent temples and palaces.

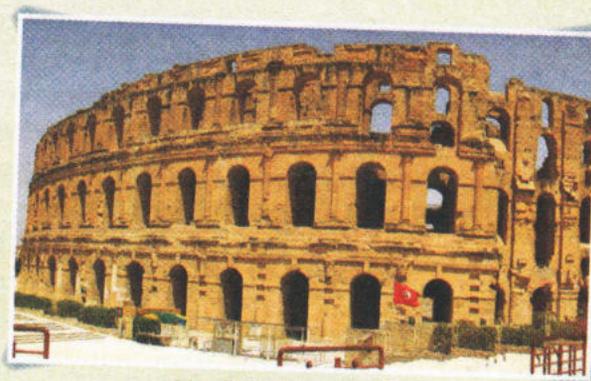


Fig. 9.12: The Amphitheatre

The Roman emperors also built large amphitheatres. Amphitheatres were open arenas surrounded by tiers of seats. Here citizens could watch all types of shows. Huge aqueducts or channels to supply water were constructed. They supplied water to the baths, fountains and toilets of the city.



Dates to Remember

Event	Date
1. New towns and cities started developing	During the 6th century BC
2. The second urbanisation took place during the period	6th century BC to 4th century BC
3. Beginning of the use of iron in the subcontinent	Around 3000 years ago
4. Iron tools came in wide use	Around 2500 years ago
5. The composition of Sangam literature started	Around 2300 years ago
6. Settlement in Arikamedu	Between 2200 and 1900 years ago



Let Us Recall

Urbanisation: It refers to the development of towns and cities.

Fortification: It is a tower, wall, etc. built to defend a place against attack.

Vellalar: These are the landowners in Tamil region.

Uzhavar: An ordinary ploughmen in Tamil region.

Sangam literature: It is the collection of ancient Tamil literary compositions.

Sangam: A Sanskrit word meaning a group, an association or an assembly.

Ring wells: It refers to the rows of pots or ceramic rings arranged one on the top of the other.

Monastery: It is the residence for monks.

Guild: It is an association of craftsmen or traders for mutual help.

Amphorae: A tall double-handled jar that contained liquids like wine or oil.

Shrenis: The craftsmen and merchants were organised in various guilds known as shrenis.



A. Choose the correct answer.

- Around 2500 years ago, farmers had to increase production:
(a) to promote planned irrigation works (b) to pay taxes
(c) to protect the army (d) to make it effective
- Vellars were:
(a) large landowners (b) small landowners
(c) ordinary ploughmen (d) labourers
- The word 'sangam' refers to:
(a) a group of people (b) a group of traders
(c) assembly or an association (d) a treaty
- Village headman was known as:
(a) Grambhojaka (b) Grihapati
(c) Adimai (d) Karmakara
- List out one of the major imports of the Greek sailors in the past:
(a) silk (b) perfume
(c) ivory (d) wine
- Monastery refers to:
(a) residence for monkeys (b) residence for monks
(c) residence for kings (d) residence for common people
- During 600 BC to 300 AD, the craftsmen increasingly made use of:
(a) painted grey ware (b) painted and polished ware
(c) northern black polished ware (d) only polished ware



8. Arikamedu, an important site, was famous for:
- | | |
|--------------------------|-------------------------|
| (a) precious stones | (b) polished stones |
| (c) semi-precious stones | (d) painted grey stones |

B. Answer the following questions.

1. How did the iron tools and irrigation bring an intensification in agriculture?
2. Write a short note on the dwellers of the villages.
3. Describe the main functions of the *grambhojaka*. Do you think that he was powerful?
4. Make a list of the craftspersons who would have been present in both villages and cities.
5. How do the travellers, sculptore and archaeologists help in finding about cities?

C. Fill in the blanks.

1. New varieties of corn and fruit began to be _____.
2. The kings provided money and _____ irrigation work.
3. The collection of ancient Tamil literary compositions is known as _____.
4. _____ tools were used to increase agricultural production.
5. The landless men and women were called _____ also lived in the village.
6. The _____ stories were perhaps composed by ordinary people.
7. In _____, bead-making was a flourishing _____.

D. State whether the following statements are true or false.

- | | |
|--|--------------------------|
| 1. The period 6th century BC to 4th century BC is generally known as the second urbanisation in India. | <input type="checkbox"/> |
| 2. Ring wells were used for irrigation. | <input type="checkbox"/> |
| 3. The Jatakas tell us about a number of cities. | <input type="checkbox"/> |
| 4. Barygaza was the Greek name for Bharuch. | <input type="checkbox"/> |
| 5. Punch-marked coins were made of gold. | <input type="checkbox"/> |
| 6. Mathura was an important port. | <input type="checkbox"/> |
| 7. In Sangam literature, we find that barter system was used in trading. | <input type="checkbox"/> |

1. Project Work

- (a) Make a list of some craftspersons living in your neighbourhood. Find out what kind of equipments do they use and how do they get the raw materials.
- (b) List the differences that you find in the structure of the modern day villages and towns and those of ancient times villages and towns.



10



Contacts with Distant Lands: Traders, Kings and Pilgrims

India had trading and cultural relations with other countries since ancient times. The archaeological remains reveal that India had trading relations with contemporary countries right from the middle of about third millennium BC. For example, the Northern Black Polished Ware (as has already been discussed in Chapter 9), particularly bowls and plates have been found from several archaeological sites throughout the subcontinent. Similarly, the Harappan remains found from various cities of Mesopotamia and the Mesopotamian remains from the different sites of the Harappan civilisation reveal that there were sufficient trading exchanges between the two civilisations. **Traders**, kings and **pilgrims** contributed greatly in establishing contacts with distant lands. Thus, since ancient times, India had contacts with Rome, Egypt, East Africa, Greece, Iran, Arabia, Tibet, China, West Asian countries and the kingdoms of South-East Asia.

Discoveries About Trade and Traders

The area lying between the Venkatam hills and Kanniyakumari was used to be known as Tamilham, *i.e.*, Tamil Nadu of modern India. It includes entire modern Tamil Nadu and Kerala. By about third century BC, Tamil language had developed completely as a literary language. As it has already been discussed, the collection of ancient Tamil literary compositions is known as Sangam literature. 'Sangam' was an association or academy of Tamil poets organised under the patronage of the king or the feudal lords. Three successive literary assemblies or Sangams were held by the Pandya kings. The Sangam



Do You Know

Many Roman Gold coins have been found in South India which suggest a lot of trade must have happened in this area during the ancient times.



Fig. 10.1: Roman gold coins



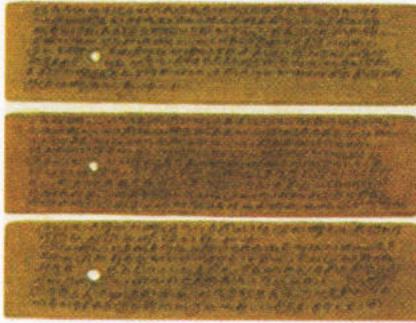


Fig. 10.2: Tamil Literary Compositions



Fig. 10.3: Sea routes



Fig. 10.4: A temple in Puhar City

literature collected by these assemblies was compiled between 300 and 600 AD. The Sangam literature occupies a very important place in the reconstruction of the ancient history and culture of South India.

We come to know from Sangam literature that trade in general and maritime trade in particular contributed greatly to the wealth of Tamilham. At Puhar, the Chola capital, there were merchant colonies which had different spoken languages. Constant traffic flowed through city gates of Madurai. There were dealers of conch bangles, gold, salt, textiles, copper wares, perfumes and sandal paste. Horses and other riches came from the north. High-piled sacks of pepper were taken by Yavanas (Romans) in exchange of gold. Spikenard was imported from the Ganga; whereas silk, tortoise shell and betel leaf came from South-East Asia.

Sea-routes discovered by Traders

Various sea-routes were discovered by the traders. Some of these ran along the sea-coasts, other routes went across the Arabian Sea and the Bay of Bengal. There, the monsoon winds were helpful to the sailors to reach their destination more swiftly. The sailors would take help of the south-west monsoon in case they wanted to reach the western coast from East Africa or Arabia. Very strong ships were required for these long journeys.

New Kingdoms along the Coasts

A long coastline, hills, plateaus and river valleys are the salient features of the southern half of the subcontinent. The valley of the Kaveri is the most fertile amongst the river valleys. Consequently, the chiefs and kings, controlling the river valleys and the coasts turned to be rich and powerful. We find references of the 'muvendar' in Sangam poems. It is a Tamil word which means, 'The three crowned kings' or 'The three chiefs'. It is used for the heads of three ruling families, the Cholas, Cheras and Pandyas. They became very powerful in South India around 2300 years ago.

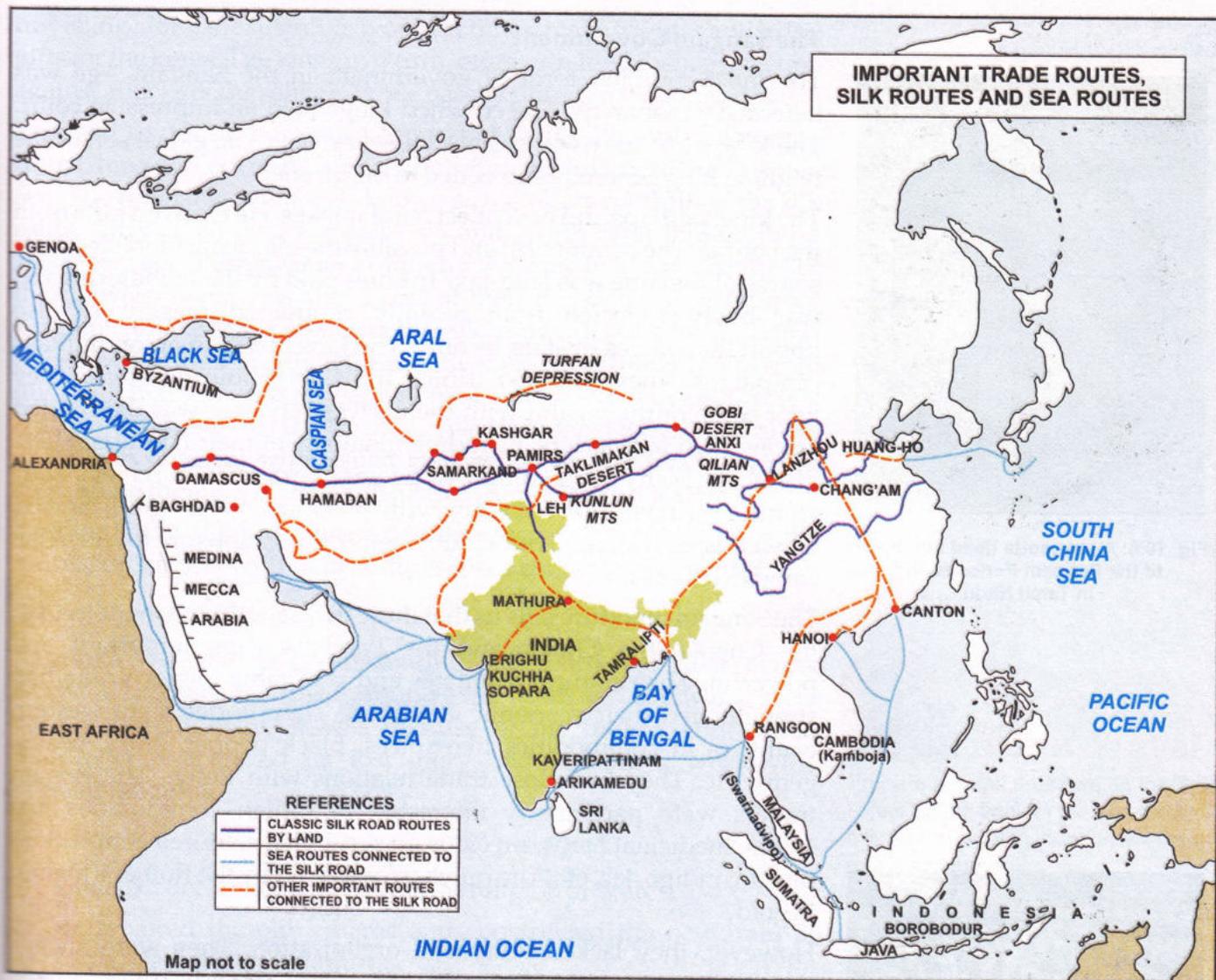
The Cholas

The Chola kingdom was located between the Pennar and the Velar Rivers. It was popularly known as Cholamandalam. In the beginning, Uraiyur in Tiruchirapalli was its capital. Later, it was transferred to Puhar (Kaveripattnam). According to Chola tradition, a Chola king named Elara conquered Sri Lanka in the middle of the second century BC and ruled it for over 50 years. Among the early Chola kings, Karikala occupied the most significant place. He established his control over the entire Tamil land. He founded the city of Puhar and built a 160 km long embankment along the River Kaveri. After Karikala, the Chola kingdom fell prey to anarchy and chaos.

The Cheras

The Cheras, one of the three 'crowned kings' of the Sangam Age, ruled over an area comprising the north of Travancore, Cochin and South





Map 10.1: Important Trade Routes, Silk Routes and Sea Routes

Malabar. Udiyanjeral was the first important Chera ruler. His son and successor Nedunjeral Adan expanded the boundaries of the Chera kingdom to a considerable extent. Hence, he became popular as 'Imayavaramban,' i.e., one who had the Himalayan Mountains as the boundary of his kingdom. According to the Chera tradition, king Senguttavan was the greatest ruler of this dynasty. The Chera capital was located at Vanji.

The Pandyas

The Pandya kingdom roughly included the modern districts of Tennevelly, Ramnad and Madurai in Tamil Nadu. Its capital was at Madurai. It was at Madurai that the literary assemblies of Tamil poets and bards, known as Sangams were organised.

Nedynjeliyan was a great Pandya king. He was an able and efficient ruler. He patronised art and literature and performed many Vedic sacrifices.



Fig. 10.5: A Pandya coin





Fig. 10.6: A terracotta head belonging to the Sangam Period found in Tamil Nadu

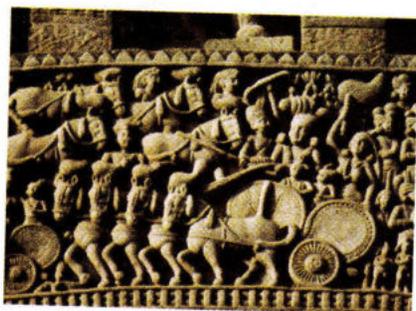


Fig. 10.7: Satavahanas

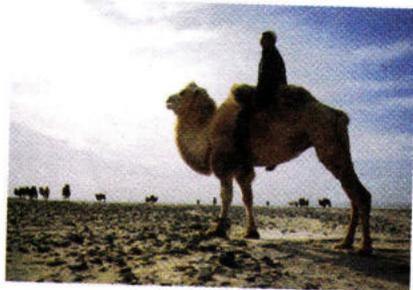


Fig. 10.8: Desert Silk Route

The Sangam Government

The most common form of government in the Sangam Age was hereditary monarchy. The crowned kings held an impressive court. The king's birthday was celebrated every year. The eldest son of the reigning king generally succeeded to the throne.

The king, perhaps, did not collect regular taxes. He received gifts from the people. The commonest and possibly the most considerable single source of revenue was land tax. Tributes paid by the feudatories and war booty collected from recently conquered foes, were also important sources of state income. The kings used to go on military campaigns. They collected tribute from neighbouring areas. They kept some of the wealth with themselves. The rest was distributed among their supporters, including members of their family, soldiers and poets. Many poets composed poems in praise of the chiefs. They were often rewarded by them with precious stones, gold, horses, elephants, chariots and fine cloth. Their compositions are found in the Sangam collection.

The Sangam literature tells us that these three southern kingdoms, *i.e.*, the Cheras, the Cholas and the Pandyas were important and powerful. Their natural resources and profitable foreign trade had strengthened their economic condition. They traded with western countries in commodities like spices, black pepper, ivory, pearls, gems, etc. They had close trade relations with Rome. The Roman traders were particularly interested in Indian commodities like spices, medicinal herbs, precious stones, ivory, coloured cotton cloth muslin, indigo, lac, etc. The purchase was paid by the Romans mainly in gold.

However, they lacked unity and organisation. They were always entangled in mutual disagreements. Consequently, their power, gradually started declining.

The Satavahanas

Around 200 years later, the Satavahanas (also known as the Andhras) rose to power in Western India. Gautamiputra, Shri 'Satakarani' was the most important ruler of this dynasty. An inscription composed by his mother Gautami Balashri provides information about him. He and other Satavahana rulers came to be known as the 'Lords of the Dakshinapatha'. The term '**dakshinapatha**' literally means the route leading to the south. It was also used as a name for the entire southern region. Satavahanas encouraged trade and commerce and the country became very prosperous under their leadership.

The Silk Route

As all of us know, silk is considered a highly valued fabric in most societies because of its rich and glossy colours and smooth texture. Making silk is not an easy process. Raw silk obtained from the cocoons of silk worms is spun into thread and then woven into cloth. The silk-making method was first discovered in China around 7000 years ago.



travelling along the silk route would at times, make tributes and bring gifts for the kings. The kings in return, often provided them protection against attacks of the robbers while passing through their kingdoms.

The land routes of India were connected to the silk route beginning from China and covering almost the whole of Asia upto the Caspian Sea. The Kushanas were well-known as the rulers controlling the silk route. They ruled over Central Asia and North-West India around 2000 years ago. Peshawar and Mathura were the two major centres of their power. Taxila was also a part of their kingdom. It was during Kushana regime that a branch of the silk route extended from Central Asia down to the seaports at the mouth of the River Indus. It was from this point that silk was shipped westwards to the Roman Empire. It is worth mentioning that the Kushanas were amongst the earliest rulers of the subcontinent who issued gold coins. The traders used gold coins along the silk route. Silk also came from China by sea.

No doubt, the silk route proved to be a significant medium for the mutual exchange of different cultures of the contemporary world.

The Spread of Buddhism

Kanishka was the most outstanding and renowned ruler of the Kushana Dynasty. He ruled around 1900 years ago. He was a great patron of Buddhism. It was because of his tireless efforts that Buddhism re-achieved its lost glory and became a worldwide popular religion.

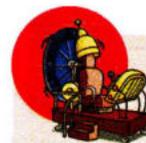
Kanishka's Efforts to Spread Buddhism

1. Kanishka declared Buddhism as the religion of state .
2. He repaired the old Viharas and constructed the new ones at Taxila, Kashmir and Mathura.
3. He gave lots of money in charity to Buddhist monks for their livelihood.
4. Kanishka organised the fourth Buddhist council at Kundalvan in Kashmir to remove the evils that had crept into Buddhism. Ashvaghosha, a poet who composed 'Buddhacharita', a biography of the Buddha, was its vice-president. Ashvaghosha and other Buddhist scholars now began writing in Sanskrit.
5. He constructed many stupas and sent missionaries to foreign lands such as China, Japan, Tibet and Central Asia.
6. The statues of Mahatma Buddha were installed through the length and breadth of the country.
7. Necessary changes and amendments were carried out in Buddhism in order to make it timely and popular. Consequently, Buddhism was split into two sects – the Hinayana and the Mahayana.

Hinayana and Mahayana. As you know, **Hinayana** (Sthaviravadis)



Fig. 10.9: Gold coins were used along the Silk Route



Time Travel

Prepare a travel brochure on the Silk Route dating back to the 2nd century CE. Don't forget to mention the items for sale on the way.



Fig. 10.10: Headless Image of Kanishka



4. Kanishka organised the fourth Buddhist council at Kundalvan in Kashmir to remove the evils that had crept into Buddhism. Ashvaghosha, a poet who composed 'Buddhacharita', a biography of the Buddha, was its vice-president. Ashvaghosha and other Buddhist scholars now began writing in Sanskrit.
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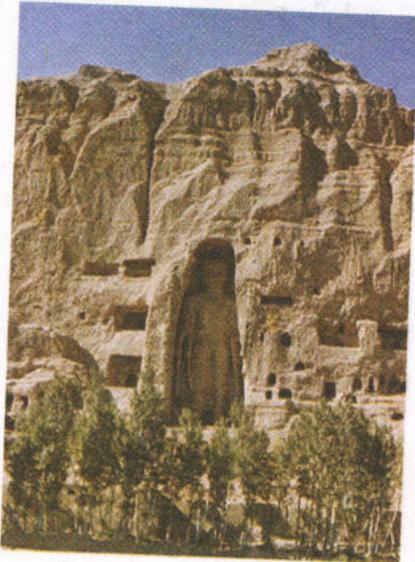


Fig. 10.11: Image of Buddha

Hinayana and Mahayana. As you know, **Hinayana** (Sthaviravadis) was the original and unchanged form of Buddhism whereas **Mahayana** (Mahasamghikas) was its new and amended form. The Hinayana regarded Buddha as a pious soul whereas the Mahayana worshipped Buddha as a god. The Hinayana did not believe in idol worship, but the Mahayana worshipped the images of the Buddha and the Bodhisattvas. Earlier, Buddha's presence was shown through sculptures. For example, Buddha's attainment of enlightenment was shown by sculptures of the Peepal Tree. However, now statues of the Buddha were made. Mathura and Taxila emerged as the two renowned centres of sculpture. Many of the statues of the Buddha were made in Mathura while others were made in Taxila.

The second change was related to a belief in **Bodhisattvas**. Bodhisattvas were persons who had attained the enlightenment. They could live in complete isolation and meditate in peace after having attained the enlightenment. But they preferred to remain in the real world to teach and help other people. The worship of Bodhisattvas gained a wide popularity and spread throughout the Central Asia, China and later to Korea and Japan.

Buddhism also became very popular in Western and Southern India. Dozens of caves were cut out of hills in these parts for monks to live in.

Some of these caves were made by kings and queens while some others by merchants and farmers. These caves were generally located near passes through the Western Ghats. It is worth mentioning that roads which connected flourishing ports on the coast with cities in the Deccan ran through these passes. The traders during their travels halted in these cave monasteries perhaps.

Buddhism also became popular in Sri Lanka, Myanmar, Thailand and in other parts of South-East Asia including Indonesia. However, it should be kept in mind that Theravada (Sthaviravadis) or the older form of Buddhism gained more popularity in these areas.

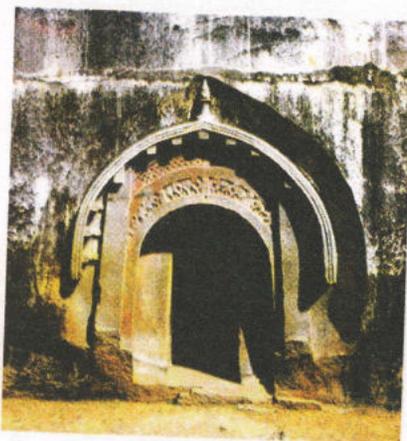


Fig. 10.12: Barabar Cave

The Quest of the Pilgrims

The persons who undertake journeys to holy places in order to offer worship, are known as **pilgrims**. They often accompanied the traders travelling to distant lands in caravans and ships.

Three great Chinese Buddhist pilgrims, Faxian, Xuan Zang and I-tsing came to India between 5th and the 7th centuries. Faxian came to the subcontinent about 1600 years ago; Xuanzang around 1400 years ago and I-tsing came about 50 years after Xuanzang. The main objective of their arrival in India was to visit places associated with the life of the Buddha and also the renowned monasteries.

Faxian (Fa Hien)

Faxian travelled *via* Central Asia and Kashmir and came to India during the reign of Chandragupta II (popularly known as Chandragupta Vikramaditya). He left his country China in 399 AD, reached India in 405 AD and stayed here for about 6 years, *i.e.*, from 405 to 411 AD. During his 6 years' stay in India, he spent 3 years at Pataliputra, the capital of the Gupta Empire. From Pataliputra, he went to Tamralipti, a port city in Bengal. He returned home by sea route in 414 AD visiting Ceylon, Java and Sumatra. He has given a vivid description of his travel of India, in his text 'Fo-Ko-Ki'. We come to know from his account that his return journey was full of many hardships. The ship he boarded with some merchants got caught in a storm. The merchants started throwing their merchandise overboard to lighten the load and thus to save the ship from sinking. Faxian disposed of all his personal belongings except the books and the statues of the Buddha that he had collected. Finally, the storm abated after 13 days. It took him more than 90 days to reach Java. He stayed here for five months and then boarded another merchant ship for China.

Xuanzang (Hiuen Tsang)

Xuanzang, 'the prince of the pilgrims' left China for India in 629 AD. Passing through Tashkand, Samarkand and Balkh, he reached Gandhara in 630 AD. From there, he went to Kashmir and Punjab. He visited places like Kapilavastu, Banaras, Gaya and Kushinagar, etc., associated with the life of the Buddha. He spent a lot of time to study at **Nalanda**, a unique centre of Buddhist learning. It was the most famous Buddhist monastery of the period. He was much influenced by the highly knowledgeable and moral atmosphere of Nalanda. Here is a brief account of Nalanda as given by him.

"The teachers are men of the highest ability and talent. They follow the teachings of the Buddha in all sincerity. The rules of the monastery are strict, and everyone has to follow them. Discussions are held throughout the day, and the old and the young mutually help one another. Learned men from different cities come here to settle their doubts. The gatekeeper asks new entrants difficult questions. They are allowed to enter only after they have been able to answer these. Seven or eight out of every ten are not able to answer."



Fig. 10.13: Faxian

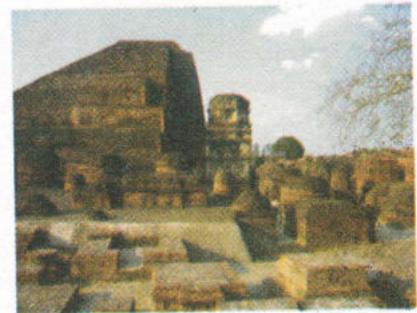


Fig. 10.14: Remains of Nalanda University



Fig. 10.15: Xuanzang





Do You Know

The word 'Bhakti' is derived from the Sanskrit term 'Bhaj' meaning 'to divide or share'. It denotes a two-way relationship between the deity and the devotee.



Fig. 10.16: I-Tsing

Xuan Zang stayed in the royal court of Kannauj for about 8 years at the request of Harsha, the emperor. He left India for China in 644 AD and took the land route through the north-west, and central Asia. He carried back with him statues of the Buddha in gold, silver and sandalwood and over 600 manuscripts loaded on the backs of 20 horses. More than 50 manuscripts were lost when the boat on which he was crossing the Indus, overturned. He reached China in 645 AD and devoted the rest of his life translating the remaining manuscripts from Sanskrit into Chinese. He wrote an account of his journey of India in his well-known book 'Si-Yu-Ki' or 'The Records of Western World'.

I-tsing

I-tsing came to India via sea-route. He spent around 10 years at Nalanda. During this long period, he studied and translated the Buddhist texts. He returned to China with 400 Sanskrit manuscripts. His book, 'A Record of the Buddhist Religion as practiced in India and the Malay Archipelago,' gives a lively description of the condition of Buddhism and the common masses in both these countries.



Our Heritage

The Beginning of Bhakti

This period also marks the growth of Bhakti. The worship of certain deities like Shiva, Vishnu and Goddesses like Durga came into prevalence which became a central feature of later Hinduism.

All these deities were worshipped through means of Bhakti, an idea that gained much popularity at this time. Generally, Bhakti is understood as a person's devotion to his or her chosen deity. All persons without any discrimination of rich or poor, high or low, man or woman could follow the path of Bhakti.

We find the presence of the idea of Bhakti in the Bhagavad Gita. The Bhagavad Gita is a sacred book of the Hindus. It is included in the Mahabharata. The Bhagavad Gita holds devotion as the easiest and the most important way of attaining moksha.

The persons following the path of Bhakti openly denounced the dogmas and rituals. They stressed on devotion and individual worship of a god or goddess. They believed that moksha or salvation could be attained only through the utmost devotion.

The saint devotees advised to follow the path of complete surrender. They preached that man should surrender himself completely to the will of God. It is worth mentioning that the system of Bhakti emphasises the unity of God. It is believed that if a devotee worships the chosen deity with pure and sincere heart, the deity will appear in the desired form. Thus, the deity could be thought of in any form, it may be a human being, lion, tree or any other form. With the popularity of this idea the artists started making various beautiful images of these deities.

The Bhakti gave inspiration to some of the best expressions in arts, such as sculpture, poetry and architecture.

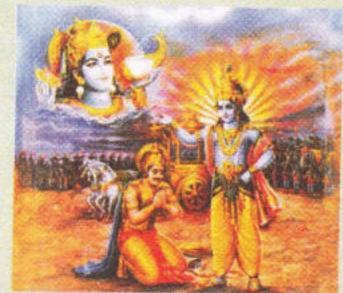


Fig. 10.17: The Bhagavad Gita

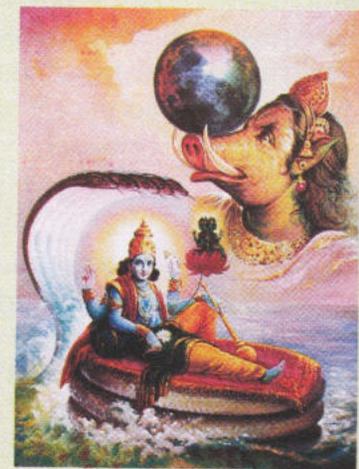


Fig. 10.18: Vishnu as Varaha

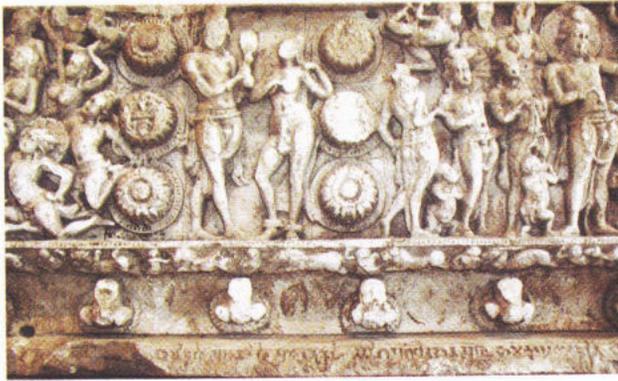


Fig. 10.19: Images in the temples of Amaravati



Do You Know

The term 'Hindu' as that of 'India' comes from the river Indus. The Arabs and the Iranians used it to refer to people living to the east of the river and to their cultural practices and religious beliefs.



In Other Lands

Christianity emerged in West Asia around 2000 years ago with the birth of Jesus Christ in Bethlehem, a part of the Roman Empire then. Christ preached his followers to treat others with love as they themselves wanted to be treated.

The teachings of the Christ are contained in Bible, the Holy Book. Following are some verses from the Bible.

"Blessed are those who hunger and thirst for righteousness, for they shall be filled.

Blessed are the merciful, for they shall obtain mercy.

Blessed are the pure in heart for they shall see God.

Blessed are the peace makers for they shall be called sons of God."

The common masses were much influenced by the teachings of the Christ. His teachings spread through West Asia, Africa and Europe. Within a hundred years of Christ's death, the first Christian preachers came from West Asia to the west coast of the subcontinent.

The Christians of Kerala are amongst the oldest Christian communities in the world. They are known as Syrian Christians perhaps because of their coming from West Asia.

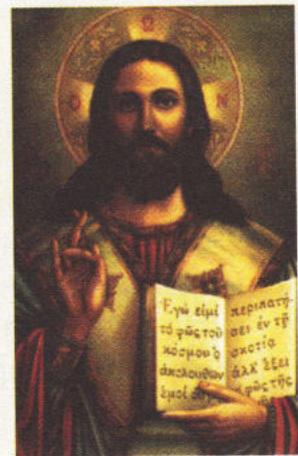


Fig. 10.20: Jesus Christ



Dates to Remember

Event	Date
1. Tamil language had developed completely as a literary language	By about 3rd century BC
2. Elara conquered Sri Lanka	In the middle of the 2nd century BC
3. Discovery of silk making	Around 7000 years ago
4. Growing demand for silk in Roman Empire	Around 2000 years ago
5. Kanishka's reign	Around 1900 years ago
6. Faxian reached India	In 405 AD
7. Faxian returned home	In 414 AD
8. Xuanzang left China for India	In 629 AD
9. Xuanzang left India for China	In 644 AD





Let Us Recall

Trader: It is a person who trades.

Pilgrim: It is a person who travels to a holy place for religious purposes.

Route: It is the way to go or send something from one place to another.

Muvendar: It is a Tamil word meaning 'The three-crowned kings' or 'The three chiefs'.

Dakshinapatha: It is the route leading to the south.

Hinayana: It is the original and unchanged form of Buddhism.

Mahayana: It is the new and amended form of Buddhism.

Bodhisattvas: These are the persons who had attained enlightenment.



A. Choose the correct answer.

- The kingdom which was popularly known as Cholamandalam:
(a) Chola kingdom (b) Chera kingdom
(c) Pandya kingdom (d) Pala kingdom
- Which was the capital of Pandya kingdom?
(a) Tinnevelley (b) Travancore
(c) Ramnad (d) Madurai
- The silk-making technique was first introduced in China around
(a) 6000 years ago (b) 8000 years ago
(c) 7000 years ago (d) 5000 years ago
- Which kingdom issued the first gold coins?
(a) Kushanas (b) Cholas
(c) Cheras (d) Pandyas
- Buddhism became popular in:
(a) Northern India (b) Western India
(c) Eastern India (d) Central India
- Who amongst the following visited India during the reign of Chandragupta II?
(a) FaXian (b) XuanZang
(c) I-Qing (d) Vasco-da-Gama

B. Answer the following questions.

- Write a short note on the Cheras and the Cholas.
- What kinds of evidence do historians use to find out about trade and trade routes?
- What do you know about the Sangam government?
- Why did kings want to control the silk route?

- Discuss the steps taken by Kanishka to spread Buddhism.
- Throw light on the main differences between Hinayana and Mahayana.
- Why did the Chinese pilgrims come to India?
- What do you mean by Bhakti? Throw light on its salient features.

C. Fill in the blanks.

- Various sea-routes were discovered by _____.
- The Kaveri valley is the most fertile amongst the _____.
- Muvendar is a Tamil word which means _____.
- The Chola kingdom was popularly known as _____.
- The Satavahanas rose to power in _____.
- The silk-making method was first discovered in China around _____.
- Kanishka was the most outstanding and renowned ruler of the _____.

D. Give reasons.

- In Sangam Age, many poets composed poems in praise of the chiefs.
- The system of Bhakti emphasises the unity of God.

E. Match the following.

Column A

- Xuanzang
- Faxian
- Muvendar
- Lords of the Dakshinapatha
- Ashvaghosha
- Fourth Buddhist council
- Worship of Bodhisattvas
- Bhakti

Column B

- Mahayana Buddhism
- Bhagavad Gita
- Kanishka
- Buddhacharita
- Harsha
- Satavahana rulers
- Chandragupta II
- Cholas, Cheras and Pandyas

E. State whether the following statements are true or false.

- Various sea routes were discovered by the traders.
- 'Muvendar' is a Sanskrit word which means the three chiefs.
- Udiyanjeral was a great Pandya king.
- The Sangam literature tells about the Cheras, the Cholas and the Pandya empire.
- Kanishka declared Jainism as the state religion.

L. Field Trip

Go to market. Buy five things as per your necessity. Prepare a list of the things which are not available in your city market.





11



Political Development: New Empires and Kingdoms

The fourth century AD witnessed the growth of a new dynasty, known as the Gupta Dynasty in the Ganga Valley. It reigned for more than 200 years and established a large kingdom over the greater part of Northern India. The Gupta Empire, undoubtedly, was a great and glorious empire of ancient India. Its period has rightly been termed as 'The Golden Period' of ancient Indian history.

How do Prashastis Help Us in Reconstructing History?

Prashastis or inscriptions help us significantly in the reconstruction of the ancient Indian history. *Prashasti* is a Sanskrit word, which means 'in praise of'. As it has been discussed earlier, *prashastis* were composed for some of the rulers like Gautamiputra Shri Satakarni. However, they became far more important from the time of the Guptas.



Fig. 11.1: Sculptures from the Gupta period

Samudragupta's Prashasti

Samudragupta (335-375 AD) was a renowned ruler of Gupta dynasty. The Guptas rose to power around the first half of the 3rd century AD. Samudragupta's *prashasti*, popularly known as Allahabad *prashasti* or Prayag *prashasti*, provides significant information regarding the Gupta Dynasty. It is a long inscription, in fact, a poem in Sanskrit. It was composed by his court-poet Harishena around 1700 years ago. It was engraved on the Ashokan pillar at Allahabad. It provides an elaborate account of the career and personality of Samudragupta. It tells us that he was a great warrior and conqueror. As a king, he won

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victories in many battles. He was a great scholar, a great musician and a talented poet. His coins show him playing on Veena. While praising Samudragupta, Harishena describes him as equal to the gods. The *prashasti* has been composed in very long sentences. For example, while praising the emperor as a great warrior it tells: "His body was most charming, being covered with the plenteous beauty of the marks of hundreds of scars caused by battle axes, arrows, spikes, spears, barbed darts, swords, iron clubs, javelins, barbed arrows, long arrows and many other weapons."

Samudragupta's Conquests

Samudragupta followed an aggressive policy of conquests for the expansion and stabilisation of the Gupta rule. Harishena, in Allahabad *prashasti*, tells about four different kinds of rulers that Samudragupta won over. They are as under:

1. The Rulers of Aryavarta

The nine rulers of **Aryavarta** or Northern India had ganged up against Samudragupta. Samudragupta defeated them and their kingdoms were annexed into Gupta Empire.

2. The Rulers of Dakshinapatha

There were 12 kings in Dakshinapatha. Samudragupta launched a battle against them. All of them were defeated. Samudragupta made these kings his tributaries and returned their kingdoms to them.

3. The Rulers of Neighbouring States

The rulers of neighbouring states like Assam, Coastal Bengal, Nepal and a number of *gana sanghas* accepted Samudragupta's suzerainty. They offered him tribute, followed his orders and used to attend his court.

4. The Rulers of the Outlying Areas

The rulers of the outlying areas probably the descendants of the Kushanas and Shakas and the ruler of Sri Lanka accepted Samudragupta's authority. They offered him their daughters in marriage.



Fig. 11.2: Samudragupta on a coin from Gupta Period



Time Travel

Travel back to the age of Guptas when there was a trend of *prashastis* to be written by the court poet dedicated to the ruling king. Can you come up with a testimonial in honour of your friend?

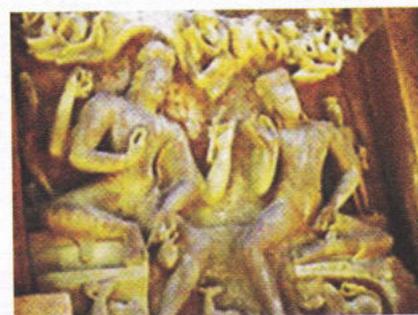


Fig. 11.3: Gupta Temple at Deogarh



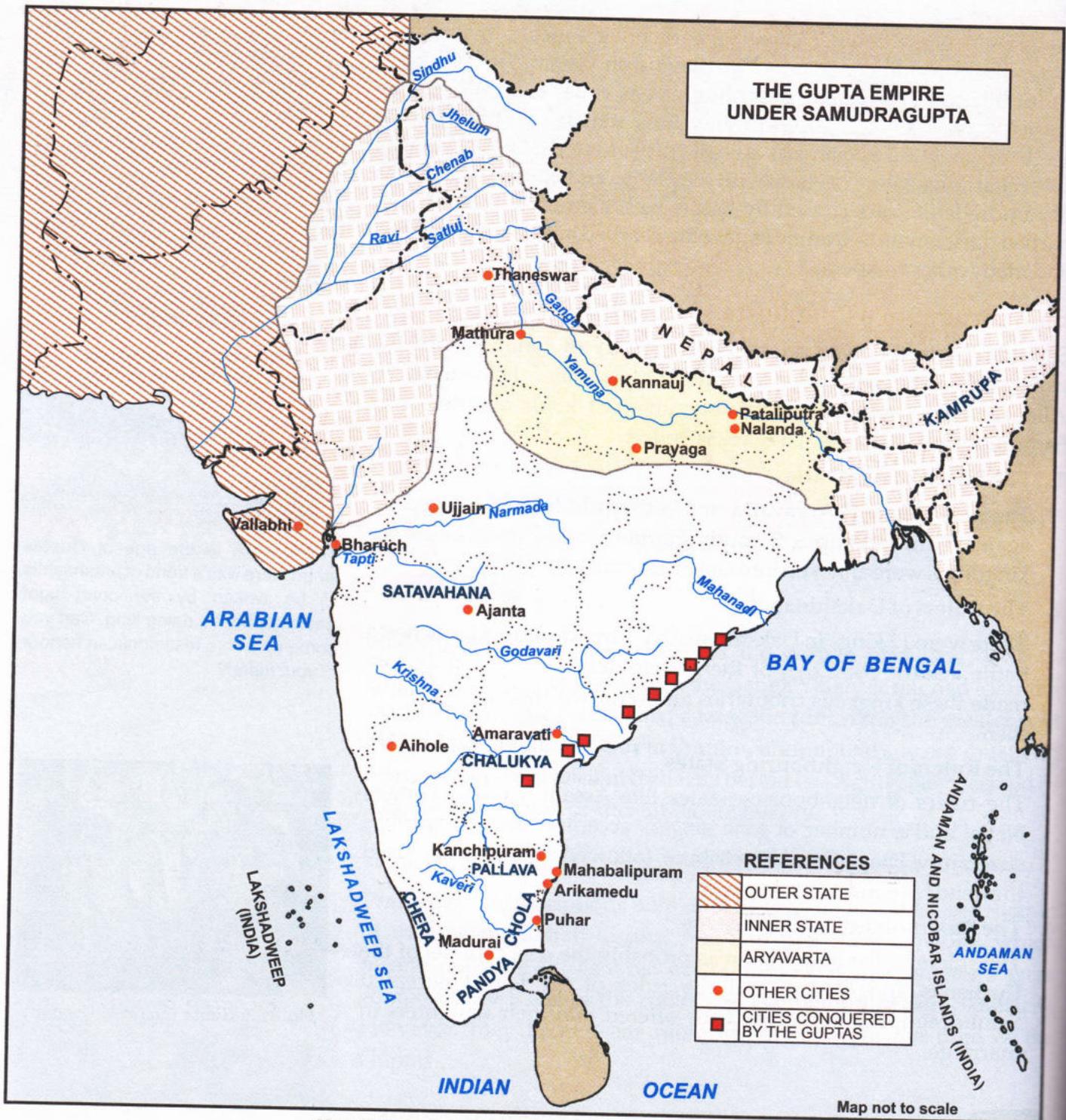
Our Heritage

The game of chess originated in India during the Gupta Dynasty. In its early form, it was a four-player war game called "chaturanga" ("army of four divisions" or "four corps"). The different pieces represented the key features of the Indian armies of the time: infantry, cavalry, elephants, and chariots. According to ancient Arabic sources, it spread first to Persia and then to Asia and Europe through the Silk Road.



Fig. 11.4: A chess board





Map 11.1: The Gupta Empire under Samudragupta



Fig. 11.5: Ruins of a Gupta Temple

Genealogies

In most of the *prashastis* we also find references regarding the ancestors of the ruler. For example, the Allahabad *prashasti* provides vital information regarding Samudragupta's great grandfather, grandfather, father and mother. His mother Kumaradevi was a Lichchhavi princess. We should know that the Lichchhavi was a well-established and powerful *ganarajya*. It enjoyed a very respectable

place in North India at that time. Samudragupta's father Chandragupta I (319-335 AD) was the first important king of the Gupta Dynasty. He was felicitated with the title of 'Maharaj-adhiraja' which means 'king of the kings'. Samudragupta too, took this title. Samudragupta's great grandfather Srigupta and grandfather Ghatotkacha have been mentioned simply as *maharajas*. Perhaps, the family gained importance gradually.

Chandragupta II (380-412 A.d.)

Samudragupta was succeeded by his able son Chandragupta II, who is better known as Chandragupta Vikramaditya. Inscriptions and coins provide much information regarding him. He, like his father, was a great conqueror and an able administrator. His most significant victory was against the Shakas. The Shakas ruled over Malwa, Gujarat and Kathiawad. Chandragupta II launched an offensive against them. Rudra Singh III, the Shaka king, was defeated and killed in the battlefield. His kingdom was annexed into Gupta empire.

Chandragupta II was a great patron of art and literature also. His court was full of the renowned scholars like Kalidasa, 'The Shakespeare of India' and Aryabhata, the well-known mathematician and astronomer.

Harshavardhana and the Harshacharita

Like inscriptions and coins, biographies too, provide significant information regarding some rulers like Harshavardhana. He belonged to Pushyabhuti Dynasty. Harshavardhana ruled around 1400 years ago. 'Harshacharita' the biography of Harshavardhana, was written in Sanskrit by Banabhatta, his court poet. **Harshacharita** tells us regarding the genealogy of Harsha and winds up with his coming to throne. Xuanzang, a Chinese pilgrim, who stayed in Harsha's court at Kannauj for about 8 years, also gives a detailed account of the contemporary conditions.

Harsha was the youngest son of Prabhakarvardhana. His elder brother Rajyavardhana came to throne after the death of Prabhakarvardhana. Harsha ascended the throne after the death of his brother in 606 AD. Harsha's sister Rajyashri was married to Grihavarman, the ruler of Kannauj. Grihavarman was killed by Shashank, the ruler of Bengal. As Grihavarman had no successor, Harsha took over the kingdom of Kannauj at the request of his sister.

Harsha achieved success in the east. He conquered both Magadha and Bengal. However, he could not achieve success elsewhere. He tried to extend his empire across the River Narmada but had to face defeat at the hands of Pulakeshin II, the most powerful king of Chalukya Dynasty. Harsha died in 647 AD.

The Pallavas and the Chalukyas

The Pallavas and Chalukyas were the most outstanding ruling dynasties in South India during the Gupta period.



Do You Know

Chandragupta II's court had Navaratna (Nine Jewels). Kalidas was one of the jewels among his Navaratna.



Fig. 11.6: Coins of Gupta period



Fig. 11.7: Harshavardhana





Fig. 11.8: Rath Temple at Mahabalipuram



Fig. 11.9: Kailashnath Temple at Kanchipuram



Fig. 11.10: A king addressing his people

The Pallavas had authority over a large and well-organised territory. It included the northern part of the Southern Peninsula, extending from the eastern sea to the western sea. Kanchi (modern Kanchipuram) was their capital city. The Chalukya kingdom was centred around the Raichur Doab, between the Rivers Krishna and Tungabhadra.

The Chalukya capital Aihole was a renowned centre of trade and commerce. It was also an important religious centre having many temples. Famous Rath temple at Mahabalipuram is its best example. The Pallavas and the Chalukyas were always at daggers drawn. They often launched offensives against one another's lands. The capital cities, which were flourishing and prospering towns were their main targets.

Pulakeshin II and his Prashasti

Pulakeshin II was the most outstanding ruler of the Chalukya Dynasty. He was a contemporary of Harshavardhana, the ruler of Kannauj. The Aihole inscription or *prashasti* gives a detailed description of the early history of the Chalukyas and the conquests of Pulakeshin II. This *prashasti* was composed by Pulakeshin II's court poet Ravikirti. It provides us information regarding his (Pulakeshin II's) ancestors. They are traced back through four generations from father to son. It says that Pulakeshin II inherited the Chalukya kingdom from his uncle.

We come to know from Aihole *prashasti* that Pulakeshin II was a great warrior. He undertook campaigns along both the west and the east coasts. He was successful in restraining the advancement of Harsha. 'Ravikirti' says that after his defeat at the hands of Pulakeshin II, Harsha lost the very meaning of his name 'Harsha'. As you know, the word 'Harsha' means 'happiness'. But after his defeat 'Harsha was no longer Harsha'.

Pulakeshin II also invaded the Pallava king. The Pallava king had to seek asylum behind the walls of Kanchipuram.

However, the Chalukya victory could not last long. Soon, both the Pallavas and the Chalukyas were replaced by the Rashtrakuta and the Chola Dynasties.

Administration of the Kingdoms

As earlier, village was the basic unit of administration and land revenue was the main source of income.

However, the period was marked with some new developments as well. The kings started taking various steps in order to get the support of persons who were powerful economically, socially, politically or militarily. It can be affirmed by the following examples:

- Some important posts in administration were made hereditary. It meant that son succeeded his father to the same post. For example, Harishena, the poet, succeeded his father to the post of mahadanda-nayaka or chief judicial officer.



- Many a times, more than one offices were hold by one person. For example, Harishena, the maha-danda-nayaka also held the offices of **Kumar-amatya-adhikarna** and **Sandhi-vigrahika**. It should be kept in mind that Kumar-amatya-adhikarna was an important minister and Sandhi-vigrahika was a minister of war and peace.
- Important persons like **Nagar-shreshthi**, **Sarthavaha**, **Prathama-kulika** and the **Prathama-kayastha**, perhaps, exercised influence in matters pertaining to local administration. Nagar-shreshthi was the chief of the guild of traders and bankers. Sarthavaha was the leader of the merchant caravans. The Prathama-kulika was the chief of artisans or craftspersons and the Prathama kayastha was the chief scribe.

No doubt, these policies helped significantly in running the administration efficiently and smoothly. However, they proved to be damaging in one way or the other. Some of these influential persons grew so powerful that they established their own independent kingdoms.

A New Kind of Army: Military Leaders Army

Some of the kings, like the earlier kings, used to maintain a well-organised army. It included elephants, chariots, cavalry and foot soldiers. Besides this army, there were troops of the military leaders, popularly known as *samantas*. They sent their troops whenever the king required them. It is worth mentioning that the *samantas* received grants of land in place of regular salaries. The revenue collected from the land was used to maintain soldiers and horses and provide equipment for warfare. The *samantas*, sometimes, grew very powerful. They tried to become independent during the reign of the weak and inefficient rulers.

Assemblies in Southern Kingdoms

We find references regarding a number of local assemblies in local administration in the Pallava inscriptions. These were *ur*, *sabha* and *nagaram*.

The *ur* was a common assembly of the village. It existed in village where the landowners were non-brahmins. All the persons holding land were its members.

Sabha was an assembly of Brahmin landowners. It was found in Brahmin villages called *agraharas* and all the adult men were its members. *Sabha* functioned through subcommittees. They looked after a number of works such as irrigation, agricultural operations, making roads and temples.

The assembly of the merchants was known as *nagaram*. It was normally found in areas where traders and merchants were in dominance. There is very likelihood that rich and powerful landowners and merchants were in majority in these assemblies. Many of these local assemblies remained in existence for a long time.

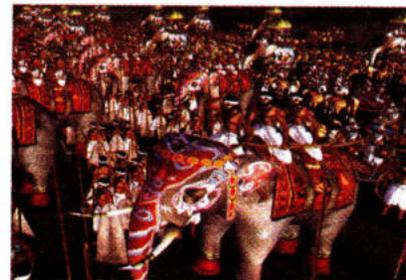


Fig. 11.11: Military leaders army



Time Travel

Imagine yourself as Kalidas from Gupta Period. What would you tell your classmates about the literature in Gupta Period?





Fig. 11.12: King Dushyanta and Shakuntala



Do You Know

Even though Kalidas was born centuries before William Shakespeare, he is known as the Indian Shakespeare

Condition of the Masses in the Kingdoms

The contemporary literature gives us a real peep into the lives of the masses.

The works of Kalidasa, the world-renowned scholar of Sanskrit, give an interesting glimpse of the life in the court of the king. It is interesting to note that in Kalidasa's plays, the king and the Brahmins have been depicted as conversing in Sanskrit. Whereas women and the men other than the king and the Brahmins use Prakrit in their conversation. It means that Sanskrit was the language of the elites and Prakrit of the common masses.

'Abhijnana Shakuntalam', the world-famous work of Kalidasa, is a love story of the king Dushyanta and a young, charming lady Shakuntala. The play gives a vivid description of the dilemma of a poor fisherman. The story runs like this:

Once a poor fisherman found a valuable ring which had been swallowed by a fish. In fact, it was presented by king Dushyanta to his beloved Shankuntala. Feeling that it could be a royal property, the fisherman went to the palace to present it to the king. But he was accused of theft and the chief police officer misbehaved with him. However, the king became very happy the moment he saw the ring and rewarded the fisherman for his honesty. However, the police officer and gateman who wanted to have a share in the reward, accompanied the fisherman for a drink. Thus, the story shows that corruption was rampant even in those days.

The Chinese pilgrim Faxian tells us that the condition of the so-called low caste people and in particular of the untouchables was miserable. They lived segregated from the rural and urban population. Generally, they lived on the outskirts of the villages and towns. They were supposed to create a noise with the help of a stick whenever they entered a town or a market. They did so in order to inform of their presence so that the so-called high caste people may not get profaned as a result of coming into their contact.

Similarly, Banabhatta draws a glowing picture of the royal army's march. Banabhatta was a Sanskrit prose writer and poet of India. He tells us that the king used to travel with huge army and equipment. Besides the weapons, there were items and commodities of daily use such as pots, furniture, foodstuffs including animals like goat, deer, rabbits, vegetables, spices, etc. All these items and commodities were carried on carts or loaded on the beasts of burden like camels and elephants. Musician beating drums and others playing horns and trumpets also accompanied this large army.

The villagers were supposed to be caring and hospitable to the king and his army. They welcomed them with gifts of curds, *gur* and flowers and provided fodder to the animals accompanying the army. They would also try to see the king in order to bring to his notice their complaints and petitions.



However, the army would leave a trail of destruction. The elephants would often cause a havoc to the huts of the villages by trampling them down. The oxen of the caravans of the merchants would often run away scared by the noise. Thus, as Banabhatta rightly remarks, "The whole world was swallowed up in dust."



In Other Lands

Arabia, though a desert, was a hub of communication for a long time. Undoubtedly, Arab merchants and sailors contributed greatly to the sea-trade between India and Europe. Besides the merchants and sailors, Bedouins also lived in Arabia. The Bedouins were pastoral tribes. They depended particularly on hardy animals like camels, fit to survive in the desert.

Prophet Muhammad introduced Islam, a new religion, in Arabia around 1400 years ago. Islam emphasised the equality and unity of all before Allah, the Almighty. Quran is the sacred book of Islam. A verse from the Holy Quran says:

"For Muslim men and women, for believing men and women, for devout men and women, for true men and women, for men and women who are patient and constant, for men and women who humble themselves, for men and women who give in charity, for men and women who fast, for men and women who guard their chastity, and for men and women who engage much in Allah's remembrance, for them has Allah prepared forgiveness and great reward."

Islam made rapid progress and within a short span of hundred years, it spread to North Africa, Spain, Iran and India. It came to the subcontinent with the Arab sailors who already knew about its coastal settlements. Around 1300 years ago, the Arab soldiers conquered Sind, now in modern Pakistan.



Fig. 11.13: A Mosque in Jerusalem



Dates to Remember

Event	Date
1. The Guptas rose to power	Around the first half of the 3rd century AD
2. Harshavardhana ruled	Around 1400 years ago



Let Us Recall

Golden period: It refers to a period which records an unparalleled growth in all the fields like political, economic, social, religious, cultural, etc.

Prashasti: It is a Sanskrit word which means, 'in praise of'.

Aryavarta: It denotes Northern India.

Maharaj-adhiraja: It means, the king of kings.

Harshacharita: It is a biography of Harsha written in Sanskrit by Banabhatta.

Sandhi-vigrahika: It is the a minister of war and peace.

Nagar shreshthi: It is the chief of the guild of traders and bankers.

Sarthavaha: It is the leader of the merchant caravans.

Prathama-kulika: It is the chief of artisans or craftspersons.

Prathama-kayastha: It is the chief scribe.





EXERCISES

A. Choose the correct answer.

- How many rulers of Aryavarta had ganged up against Samudragupta?
(a) eight (b) nine
(c) five (d) ten
- Who was given the title of 'Maharaj-adhiraj'?
(a) Samudragupta (b) Chandragupta
(c) Upagupta (d) Skandagupta
- Who is known as the 'Shakespeare of India'?
(a) Harisena (b) Chanakya
(c) Kalidasa (d) Samudragupta
- Who amongst the following visited Harsha's court?
(a) I-tsing (b) Xuanzang
(c) Faxian (d) Ibn Batuta
- The Chalukya kingdom was centred around Rivers:
(a) Krishna and Godavari (b) Krishna and Mahanadi
(c) Krishna and Tungabhadra (d) Krishna and Kaveri
- Nagaram* refers to:
(a) assembly of brahmins (b) assembly of merchants
(c) assembly of common people (d) assembly of officials
- Who was the famous ruler of the Chalukya Dynasty?
(a) Pulakeshin II (b) Rudra Singh III
(c) Devapala (d) Ravikirti

B. Answer the following questions.

- How do the *prashastis* help in the reconstruction of the ancient Indian history?
- Who was the composer of Allahabad *prashasti*? What does it tell us about Samudragupta?
- Discuss the difference between the policies adopted by Samudragupta towards Aryavarta and Dakshinapatha.
- Discuss the new administrative arrangements made during the period under consideration.
- Do you think the common masses were able to read and understand the *prashastis*? Give reasons for your answer.

C. Fill in the blanks.

- Prashasti* is a Sanskrit word which means _____.
- The rulers of neighbouring states followed Samudragupta's orders and used to attend _____.

3. The Lichchavi was a well-established and powerful _____.
4. Harsha belonged to _____ dynasty.
5. Pulakeshin II was perhaps the most outstanding ruler of the _____.

D. State whether the following statements are true or false.

1. *Prashastis* help significantly in the reconstruction of the ancient Indian history.
2. Harishena composed a *prashasti* in praise of Gautamiputra Shri Satakarni.
3. The nine rulers of Aryavarta had ganged up against Samudragupta.
4. The rulers of Aryavarta brought tribute to Samudragupta.
5. Taxila and Madurai were important centres under the control of the Gupta rulers.
6. Harsha was the eldest son of Prabhakarvardhana.

E. Match the following.

Column A

1. *Prashasti*
2. Gupta period
3. Faxian
4. Harshacharita
5. Pulakeshin II

Column B

- (a) Golden period
- (b) Chalukya ruler
- (c) in praise of
- (d) Chinese pilgrim
- (e) Banabhatta

1. Project Work

- (a) Make a genealogy for yourself. How many generations would you like to include in it? Make a chart.
- (b) Compose a *prashasti* for your favourite teacher.





Culture and Science: Buildings, Paintings and Books

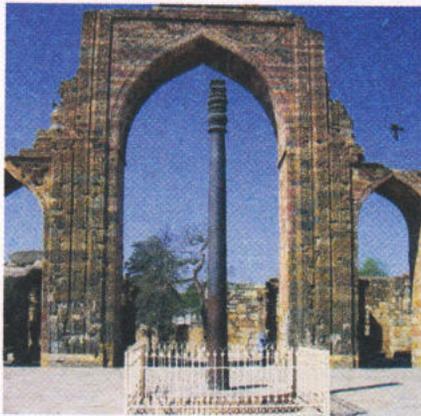


Fig. 12.1: Iron Pillar at Mehrauli



Fig. 12.2: A Buddhist Stupa

India registered a significant growth in the field of culture and science in ancient times. It can be studied under following headings:

The Iron Pillar at Mehrauli

The Iron pillar located near Qutab Minar at Mehrauli in Delhi is an excellent example of the skill of Indian craftspersons. It is a solid shaft of pure, rustless wrought iron. It is 7.2 m high and weighs over 3 tonnes. It was made about 1600 years ago. An inscription on the pillar mentions a ruler named Chandra. It was perhaps Chandragupta II (more popular as Chandragupta Vikramaditya), the renowned king of the Gupta Dynasty.

Architecture: Buildings in Brick and Stone

Stupas

Magnificent stupas were built in ancient India. The stupas of Sanchi, Bharhut, Amaravati and Sarnath are remarkable examples of the progress made in architecture. The word '**stupa**' means a mound. Stupas are of various kinds such as round and tall, big and small. However, all the stupas have some common features. Usually, stupa is a hemispherical dome or mound built over some sacred relics. There is a small box placed at the centre or heart of the stupa, containing the bodily remains such as teeth, bone, ashes (*bhasma*) either of the Buddha himself or of a sacred monk. It may sometimes contain precious stones and coins.



The box containing the relics, was known as **relic casket**. It was covered with Earth. Then a layer of mud brick or baked brick was added on the top. Later, carved stone slabs were placed on the dome-like structure to cover it.

Generally, a path surrounded with railings was laid around the stupa. It was known as *pradakshina patha*. There were gateways to enter the path. Devotees as a mark of devotion, used to walk around the stupa in a clockwise direction. The railings and gateways were decorated with beautiful sculpture.

A beautiful stupa was built at Amaravati. A large number of stone carvings for decorating the stupa were made around 2000 years ago.

Caves

The rock-cut caves are another remarkable examples of the flourishing architecture in ancient times. Some of the excellent rock-cut caves were excavated in the Deccan. Some of the caves were very beautifully decorated with sculptures and painted walls. The Ajanta and Ellora caves are known for their cave architecture.

Temples

Some beautiful Hindu **temples** dedicated to deities like Vishnu, Shiva and Durga were built during this period. *Garbhagriha* or *moorti prakoshtha* was the most important part of the temple. The image of the chief deity was placed here. It was the place where religious rituals were performed by the priests and worship was offered by the devotees.

A tower was built on the top of the *garbhagriha* in order to mark it out as a sacred place. It was known as *Shikhara* (the superstructure above the *garbhagriha*). The brick temple of Bhitargaon at Kanpur in modern Uttar Pradesh was adorned with a *Shikhara*. Almost all the temples had a hall where the people could assemble. It was known as *mandapa*.

Some of the finest stone temples were built in towns like Mahabalipuram and Aihole. Each of the monolithic temples at Mahabalipuram was carved out of a huge, single piece of stone. Hence, they are known as monoliths.

Process of Building Stupas and Temples

The work of building, a stupa or a temple was accomplished through various stages. It is worth mentioning that a stupa or a temple was generally built by a king or a queen as a huge amount of money was required for its construction. First of all, a place was carefully chosen for the new building. Good quality of stone had to be found, quarried and transported to the place chosen for the purpose. It was here that the rough blocks of stones were shaped. They were carved into pillars and panels for walls, floors and ceilings. Then, they were placed in exactly the right position.



Time Travel

Form groups of 4. Two students in each group would imagine themselves as the persons who have come from the ancient period while the remaining two students in the group will represent the modern period. Hold a debate on the topic, "The temples built in the modern times are more beautiful than the temples in the ancient period."



Fig. 12.3: A temple at Bhitargaon in Uttar Pradesh

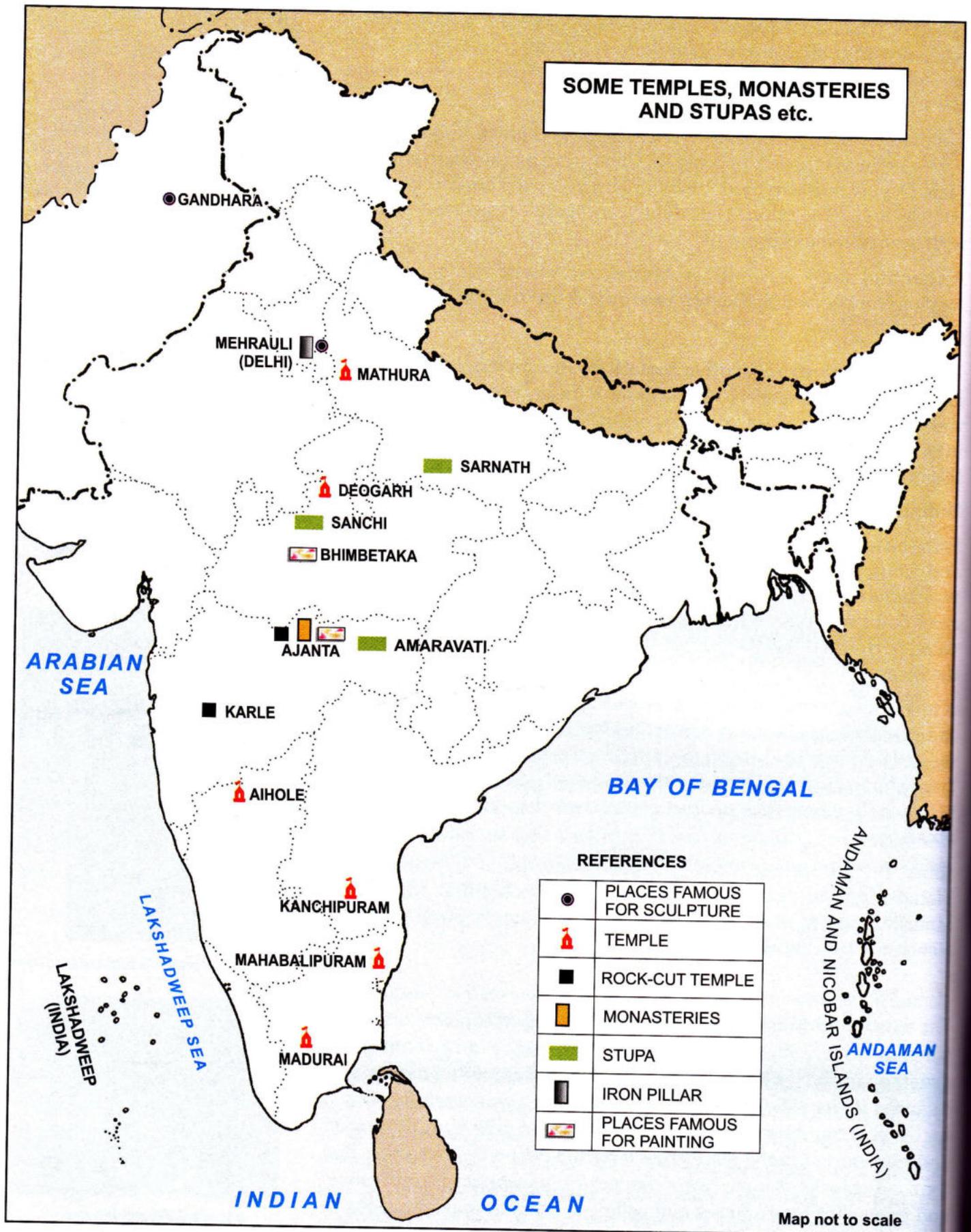


Fig. 12.4: Dasavatar Temple at Deogarh



Fig. 12.5: Shore Temple at Mahabalipuram





Map 12.1: Some Temples, Monasteries and Stupas etc.



Our Heritage

The Ajanta and Ellora caves near Aurangabad, world renowned for their rock-cut caves, murals and sculptures, have been declared world heritage sites by UNESCO.



Fig. 12.6

A large number of workers and craftsmen worked to construct these magnificent structures. They were perhaps, paid by the kings and queens from their treasury. Again, the devotees visiting the temple or the stupa, would often bring gifts. These were used to decorate the buildings. For example, one of the beautiful gateways at Sanchi was paid for by a guild of the ivory workers.

The merchants, farmers, garland-makers, perfumers, smiths and hundreds of men and women also paid for decorations. We come to know about them by their names inscribed on pillars, railings and walls. Thus, hundreds of people perhaps worked for the construction and decoration of these buildings.

Paintings

It took centuries to hollow several caves out of the hills at Ajanta. Most of these caves were Buddhist monasteries. Some of them were decorated with paintings. Most of these paintings were made in the light of torches since the caves are dark inside. The colours were prepared from the plants and minerals. They are bright even after a long period of around 1500 years.

The Books

The period witnessed the composition of some of the renowned epics. Epics are superb long compositions about the deeds of great men and women. They also contain stories about gods.

Ilango composed Silappadikaram, a popular Tamil epic, around 1800 years ago. It narrates the story of a merchant named Kovalan. While living in Puhar, despite having a wife, fell in love with Madhavi, a courtesan. Later, Kovalan with his wife Kannagi left Puhar for Madurai. However, at Madurai, the court jeweller of the Pandya king wrongly accused him of theft. Consequently, he was sentenced to death by the king. However, Kannagi, his wife, still loved him. Her grief and anger knew no bounds at this injustice. It was because of her deep sorrow and anger that the entire city of Madurai met its end.

A passage from the Silappadikaram narrates Kannagi's grief as under:

"O witness of my grief, you cannot console me. Is it right that your body, fairer than pure gold, lies unwashed here in the dust? Is it just that in the red glow of the twilight, your handsome chest, framed with a flower wreath, lies thrown down on the bare earth, while I remain



Do You Know

The paintings at Ajanta and Ellora are more than 1500 years old. Back then, natural vegetable dyes were used for colouring.



Fig. 12.7



Fig. 12.8: Durga Temple at Aihole



Fig. 12.9: Painting at Ajanta

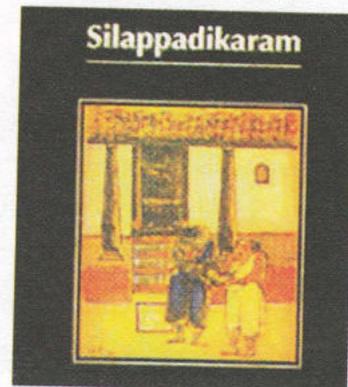


Fig. 12.10: Silappadikaram, a Tamil epic





Fig. 12.11: A scene from Silappadikaram

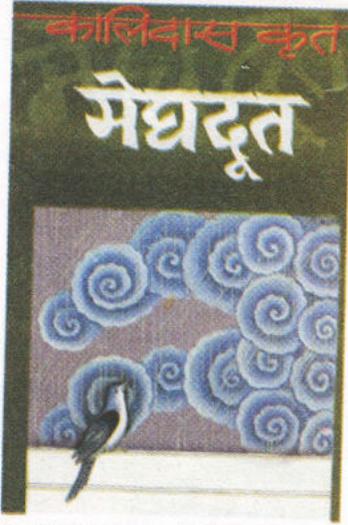


Fig. 12.12: Meghaduta of Kalidasa

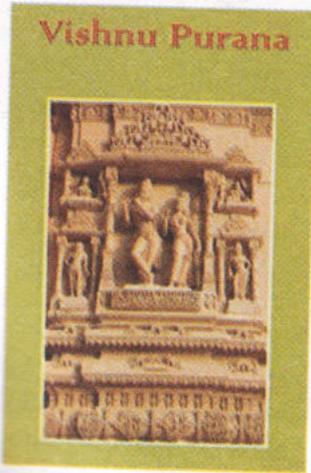


Fig. 12.13: Vishnu Purana



Fig. 12.14: The Ramayana

alone, helpless and abandoned to despair? Is there no God? Is there no God in this country? Can there be a God in a land where the sword of the king is used for the murder of innocent strangers? Is there no God, no God?"

Around 1400 years ago, Sattanar composed another Tamil epic, the Manimekalai. It narrates the story of the daughter of Kovalan and Madhavi. These beautiful compositions for a long time, remained lost to scholars. It was about a century ago that their many scripts were rediscovered.

Kalidasa, as has already been discussed in Chapter 11, occupies the most significant place in the field of composing literary texts. He enriched Sanskrit literature by producing the great dramas like Abhijnanasakuntalam; epics like Kumarsambhavam and lyrics like the Meghaduta. In Meghaduta, a monsoon cloud is imagined to be a messenger between the separated lovers. While describing very beautifully the breeze that will carry the cloud northwards, the poet says:

*"A cool breeze, delightful as it is touched
With the fragrance of the earth
Swollen by your showers,
Inhaled deeply by elephants,
And causing the wild figs to ripen,
Will blow gently as you go."*

Recording and Preserving Old Stories

The Puranas

Several Hindu religious stories in circulation earlier, were written down during the period under consideration. These include the Puranas, literally meaning 'The old'. The Puranas are 18 in number. They contain stories about divinities like Vishnu, Shiva, Durga or Parvati. They provide accounts about the creation of the world and about the kings.

The Puranas were written in simple Sanskrit verse. They were meant to be heard by all, even by women and shudras. It is worth mentioning that women and shudras were not permitted to study the Vedas. Perhaps, the priests used to recite them in the temples.

The Epics: The Ramayana and the Mahabharata

The Ramayana and the Mahabharata, the two great epics written in Sanskrit have been popular for centuries. Usually, the authorship of Ramayana is assigned to Valmiki and that of Mahabharata to Ved Vyasa.

The **Ramayana**, the Adikavya of India, is about Rama, a prince of Ayodhya. He was sent into exile for 14 years. His wife Sita and brother Lakshmana also accompanied him. While living in exile his wife Sita was abducted by Ravana, the king of Lanka. Rama had to fight a battle with Ravana to get Sita back. Ravana was defeated and killed. In the

meanwhile, the term of 14 years of exile was over. Rama with his wife returned to Ayodhya. He became the king and continued to rule for a long time.

The Mahabharata tells us about a war waged between the Kauravas and the Pandavas. They were cousins. The main cause of the war was to occupy the throne and capital (Hastinapur) of the Kauravas. Perhaps, the story was an old one but it was given its present form around 1500 years ago. It has already been mentioned in Chapter 10 that Bhagavad Gita is also included in the Mahabharata.

Both the Ramayana and the Mahabharata have wide popularity amongst the masses in different parts of the subcontinent. At present, several versions are available of both the epics.

Stories narrated by Common people: The Jatakas and the Panchatantra

The common people too, used to narrate stories and compose poems and songs. They also contributed in singing, dancing and performing plays. We find some of these in the Jatakas and the Panchatantra, the collections of stories. They were also written down during the period under consideration. Often, the stories from the Jatakas were depicted on the railings of stupas and in paintings in places like Ajanta. One such story 'The Monkey king', follows as under:

Once, there was a great monkey king. He lived on the banks of the Ganga in the Himalaya. He had around 80,000 followers. All of them ate mangoes of a special tree. These mangoes were very sweet. Such tasty mangoes could not be found in plains. One day one of the mangoes fell into the river and reached Varanasi with the flow of the stream. The king of the city was bathing in the river. He got hold of the mango, ate it and was surprised with its taste. He asked the foresters of his kingdom to locate the tree which bore such a fruit. Their search led the king to the Himalayas and they were fortunate to locate that specific mango tree. There the king and his courtiers ate the mangoes to their fill. At night, the king found that the monkeys were also feeding that fruit. The king decided to kill them all.

However, the monkey king wanted to save his followers at any cost. So he devised a plan. Breaking off the branches of the mango tree, he made the bridge across the river and held on to it till all the monkeys crossed the river. However, the monkey king was so exhausted in this process that he fell down and lay dying.

The human king saw everything. He tried his best to revive the monkey but in vain. The king mourned at the death of the monkey king and paid him full respect.

We find this story depicted on a piece of sculpture found from a stupa at Bharhut (in Central India).



Fig. 12.15: The Mahabharata



Fig. 12.16: Jatakas



Fig. 12.17: Story of Monkey King depicted on a painting in at Ajanta



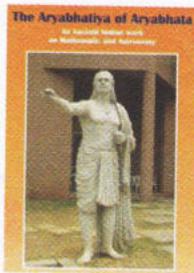


Fig. 12.18: Aryabhatiyam, a book

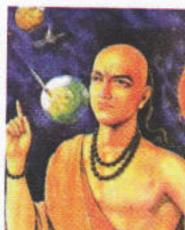


Fig. 12.19: Aryabhata

Writing books on Science

Mathematics, astronomy and medicine also recorded a high growth during the period under consideration. Renowned mathematician Aryabhata wrote a book in Sanskrit known as the Aryabhatiyam. He stated that day and night were caused because of the rotation of the earth on its axis. He also developed a scientific explanation for eclipses. An outstanding achievement of Aryabhata was the finding of calculating the circumference of a circle. It is almost as accurate as the formula used at present.

Invention of Zero

Numerals had been in use since long in India. A special symbol for zero was invented by the mathematicians during the period under consideration. The Arabs adopted this system of counting and then spread it in Europe. It is in use throughout the world even today. It is worth mentioning that the Romans did not use zero in their counting system.



In Other Lands

All of us know that paper has become an important part of the daily lives of the masses nowadays. Paper is used for writing and the books also, are printed on paper. It is interesting to know that a Chinese known as Cai Lun invented paper around 1900 years ago. It was a long and tiresome process. The plant fibres, cloth, rope and the bark of trees were all beaten and then soaked in water. The pulp thus prepared was then pressed, drained and then was dried to create paper. A similar process is adopted even today to make hand-made paper.



Fig. 12.20: Cai Lun

The paper-making technique remained a closely guarded secret for a long time. Around 1400 years ago it reached Korea and soon after it spread to Japan. It reached Baghdad around 1800 years ago. It was from Baghdad that it reached Europe, Africa and other parts of Asia including the subcontinent.



Fig. 12.21: Paper-making technique around 1900 years ago



Dates to Remember

Event	Date
1. Iron Pillar at Mehrauli was built	Around 1500 years ago
2. Stone carvings for decorating the Amaravati Stupa were made	Around 2000 years ago
3. Ajanta Caves were decorated with paintings	Around 1500 years ago
4. The Silappadikaram was composed	Around 1800 years ago
5. The Manimekalai was composed	Around 1400 years ago
6. Cai Lun invented paper in China	Around 1900 years ago
7. Paper-making technique reached Korea	Around 1400 years ago





Let Us Recall

Stupa: The word 'stupa' means, a mound. Usually, stupa is a hemispherical dome or mound built over some sacred relics.

Temple: It is a building used for the worship of the Hindu deities.

Epic: It is a long composition about the great deeds of men and women.

Relic Casket: It is the box containing the relics was known as relic casket.

Shikhara: It is the super structure above the *garbhagriha* or *Moorti prakoshtha*.

Mandap: It is a hall in the temple where people could assemble.



A. Choose the correct answer.

- The two great epics the Ramayana and the Mahabharata were written in:
(a) Pali (b) Sanskrit
(c) Hindi (d) Brahmi
- One of the remarkable features of the architecture during ancient times:
(a) rock edicts (b) pillar edicts
(c) rock-cut caves (d) arches
- A place where people could assemble in the temples was called:
(a) *mandap* (b) *garbhagriha*
(c) *shikhara* (d) cave
- Which epic tells us about the war waged between Kauravas and Pandavas?
(a) Puranas (b) Mahabharata
(c) Ramayana (d) Vedas
- A place which is famous for a beautiful Buddhist Stupa is
(a) Mahabalipuram (b) Aihole
(c) Mathura (d) Sanchi

B. Answer the following questions.

- Suppose you are going to visit the Iron Pillar at Mehrauli. How will you describe its salient features?
- What do you mean by Stupa? Discuss the common features of the Stupas.
- Suppose you are sitting in a *mandapa* of a temple. How will you describe the scene around you?
- Write a short note on the Silappadikaram.
- What do you know about the two epics – the Mahabharata and the Ramayana?



6. On the following outline map of India, locate:
- (a) where Iron Pillar is located
 - (b) a place famous for prehistoric paintings
 - (c) a famous place of Buddhist sculpture
 - (d) a famous temple town.



C. Fill in the blanks.

1. An inscription on the Iron Pillar mentions a ruler named _____.
2. All the stupas have some _____ features.
3. The box containing the relics was known as _____.
4. _____ was a great astronomer.



5. Stories about gods and goddesses are found in the _____.
6. _____ is recognised as the author of the Sanskrit Ramayana.
7. _____ and _____ are two Tamil epics.

D. State whether the following statements are true or false.

1. The path laid around the stupa was known as *pradakshinapatha*.
2. The image of the chief deity was placed in the *mandapa*.
3. A tower built on the top of the *garbhagriha* was known as *shikhara*.
4. Silappadikaram was composed by Sattanav.
5. The Puranas were written in Tamil language.
6. Bhagavad Gita is included in the Ramayana.
7. Aryabhatta was a great dramatist.

E. Match the following.

Column A

1. Stupa
2. *Mandapa*
3. *Shikhara*
4. *Garbhagriha*
5. *Pradakshinapatha*
6. Kovalan
7. Kalidasa

Column B

- (a) tower
- (b) circular path around the stupa
- (c) Kannagi
- (d) mound
- (e) place in temple where people could assemble
- (f) *Meghaduta*
- (g) place where the image of the deity is installed

1. Individual Project

Draw a picture of a relic casket. Also prepare a list of the items that could be placed in the relic casket.

2. Group Discussion

Discuss with your friends the main uses of paper. Prepare a report.



Geography

The Earth—Our Habitat



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13



The Solar System and the Earth

Look at the endless expanse of sky. You shall find the shining Sun in the blue sky and during dark night the twinkling stars and Moon. The Sun, Moon, Earth, Stars and other planets are known as **celestial bodies** or **heavenly bodies**. The solar system consists of the Sun, the eight planets and their satellites and other celestial bodies such as asteroids, meteoroids and comets. In terms of size, it is like a small speck of dust in the vast universe around us.

Stars

Twinkling diamonds in the night sky are stars which shine with the help of their own light.

Millions of stars can be seen in the night sky. They are far from us. Since the distances are vast in space, they are measured in **Light Years**, i.e., the distance covered by light in one year.

Stars are made of hot burning gases. The Sun like other stars produces its own heat and light. We do not feel heat or light of the stars because they are very far from the Earth.

Stars are found in a vast cluster called **Galaxy**. Many galaxies of different shapes and sizes are contained in the universe. Each Galaxy is a vast cluster of stars, dust and gases. They are all parts of the universe. The Sun belongs to a galaxy called Milky Way (*Akash Ganga*).

Milky Way can be seen in the night sky. It looks like a bright hazy band of light across the night sky. This band is actually millions of stars.

You may also notice in the night sky that some stars form a pattern called **Constellation**, for example, *Saptarishi* (a group of seven stars), *Ursa Major* (Great Bear), *Ursa Minor*, *Orion*, *Draco*, *Cygnus*, etc.



Fact Bubble

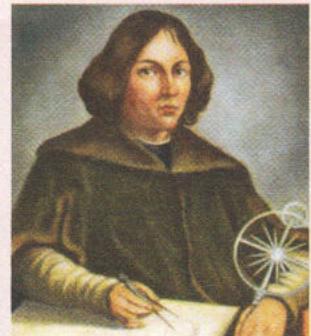


Fig. 13.1: Nicholas Copernicus

Nicholas Copernicus was a well-known observer of heavenly bodies, of his time. He proposed that planets revolve around the Sun but with different time periods. He concluded that the planet Earth rotates as well as revolves around the Sun.



Fig. 13.2: Galaxies





Fig. 13.3: Milky Way



Fig. 13.4: Saptarishi



Fig. 13.5: Ursa Major



Fact Bubble

The speed of light is 3,00,000 km per second. The light of the Sun, with this speed takes about eight minutes to reach the Earth.



Fig. 13.6: Cygnus



Fig. 13.7: Nebula

A cloud of gas and dust between two stars is called a **nebula**. Sometimes, nebulae might collapse under its own weight to form a new star. Most of the celestial bodies have evolved from nebular matter.

Our solar system's closest neighbour is Proxima Centauri—25 trillion miles away. Its light reaches us in four years while the light of the sun reaches us in about eight minutes. Apart from planets, asteroids, meteoroids and comets also revolve around the Sun.

The Sun

Sun (*Surya*) is the centre of the solar system. It is an ultimate source of energy for life on the Earth. Its tremendous heat is not felt so much by us, because it is about 150 million kms away from the Earth. It is 13,00,000 times larger than the Earth.

The Sun is a vast and fiery ball of gases. Hydrogen and Helium are the main gases present in the Sun.

Planets

Solar system is the family of eight planets with the Sun as its head. The planets revolve around the Sun due to gravity. They get light energy from the Sun.

However, all the planets are not visible to us due to their distance from the planet Earth. They do not twinkle but shine like bright stars.

- Eight planets of the solar system are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

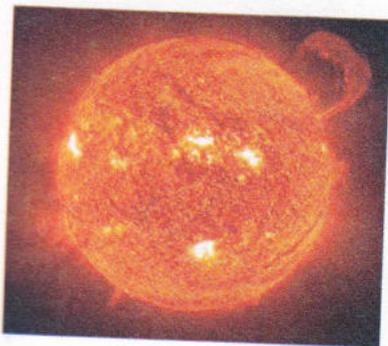


Fig. 13.8: Sun



Explore!

The Sun is known by many different names. Find out.

1. M	Planet
2. V	
3. E	
4. M	
5. J	
6. S	
7. U	
8. N	
se	
	Mercur
	Venus
	Earth
	Mars
	Jupiter
	Saturn
	Uranus
	Neptun

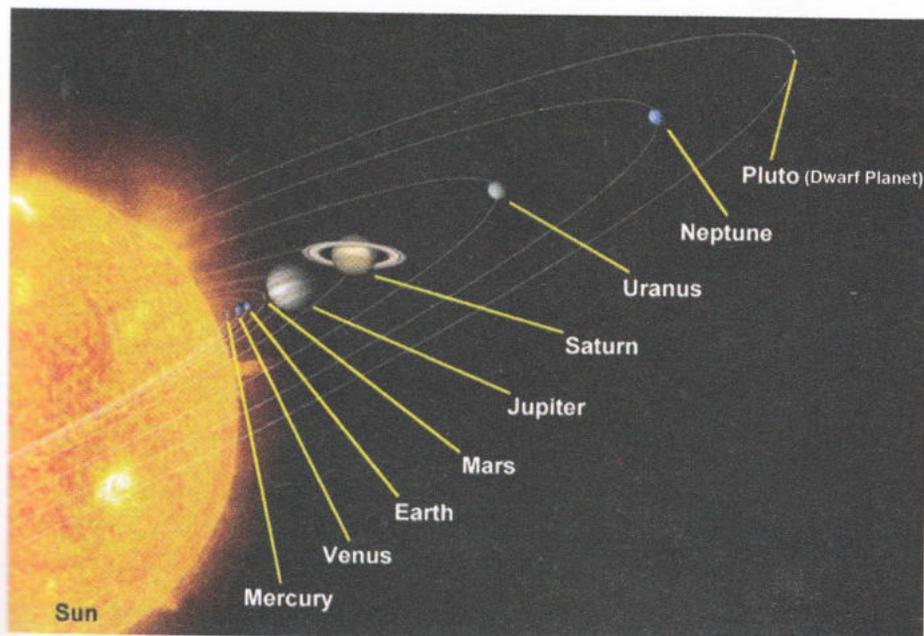


Fig. 13.9: Solar System

Eight Planets of the Solar System

- Mercury:** The fastest planet and nearest to the Sun
- Venus:** The hottest planet which is slightly smaller than the Earth. It is the brightest object in the sky after the Sun and the moon. It is also known as *Evening Star* and *Morning Star*.
- Earth:** The most dense and green planet
- Mars:** The red planet
- Jupiter:** The giant planet, about 11 times larger than the Earth
- Saturn:** A many ringed and the second largest planet
- Uranus:** Discovered by William Herchel in 1781, it is about four times the size of the Earth.
- Neptune:** Discovered by J.G. Galle of Berlin in 1846, can also be seen through a small telescope as a greenish star.

Sun: Some facts

Diameter	13,91,980 (approx.)
Surface temperature	6000°C (approx.)
Centre temperature	15,00,000°C (approx.)
Age	4.6 billion years (approx.)
Expected life	10 billion years (approx.)



Fact Bubble

The solar system also contains five dwarf planets. They are Pluto (formerly considered to be the solar system's ninth planet), Ceres, Eris, Makemake and Haumea.



Fact Bubble



Fig. 13.10: Jupiter's satellite Ganymede
Jupiter's satellite Ganymede is the largest. It is larger than the planet Mercury.

PLANETARY STATISTICS

Planets	Diameter (in km approx.)	Distance from sun (in million km approx.)	Time taken to orbit sun (approx.)	No. of satellites (moons)
Mercury	4,878	5.79	88 days	0
Venus	12,102	10.82	225 days	0
Earth	12,755	14.96	365 days	1
Mars	6,787	22.79	687 days	2
Jupiter	142,800	77.83	12 years	63
Saturn	120,500	142.70	29 years	60
Uranus	51,400	287.96	84 years	27
Neptune	48,600	497.06	165 years	13

Table 13.1





Fact Bubble



Fig. 13.11: Sedna

Sedna is a new planet discovered orbiting the Sun. It is thought to be about 1300 miles in diameter and could be of a similar size as dwarf planet Pluto.

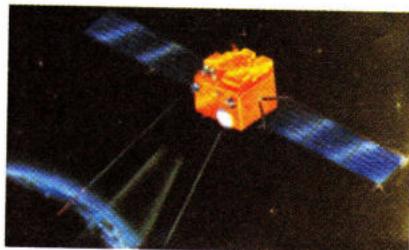


Fig. 13.12: IRS Satellite



Fig. 13.13: GMRT Sattelite



Explore!

Collect pictures of the Earth and the Moon taken from space. Why does the picture of the Moon appear clearer than that of the Earth?

- They move around the Sun in a defined path called an **orbit**.
- All these planets are spherical shaped but varying in sizes, temperature and composition. These are divided into two main groups – (a) Terrestrial Planets (b) Jovian Planets. Terrestrial planets such as Mercury, Venus, Earth and Mars are rocky in nature while Jovian planets such as Jupiter, Saturn, Uranus, and Neptune are gaseous and liquid.

The International Astronomical Union (IAU) downgraded the status of Pluto to that of a dwarf planet because it did not meet the three criteria the IAU uses to define a full-sized planet.

- Two new planets, called Quaoar and Sedna, have recently been discovered.
- Some planets have their own satellites.

The Earth

- The Earth is a unique planet as life exists only on this planet.
- It is the third nearest planet to the Sun.
- It moves like a spinning top from west to east.
- In size, it is the fifth largest with spherical shape.
- The Earth is neither too hot nor too cold.
- It has water and air which is necessary for all living beings.
- It has a large quantity of oxygen gas in its atmosphere for the survival of living beings through breathing.
- Due to vast water surface, it looks blue in colour from space, therefore, called **Blue Planet**.

Satellites

- They are celestial bodies.
- They revolve around the planets.
- They are also called moons. The Earth has only one satellite and Jupiter has 63 satellites. (See table of Planetary Statistics).
- Satellites are smaller than the planets.
- They also shine by reflecting the light from the sun like planets.
- INSAT, IRS, EDUSAT, GMRT, etc., are some man-made (artificial) satellites. They are used in various fields like television, telecommunication, disaster management, defence and many more.

The Moon

- Moon (*Soma*) is a natural satellite of the Earth.
- It revolves around the Earth while rotating on its own axis.
- The Moon is about 1/4 the size of the Earth. It is about 3.8 lakh km away from us.

- The Moon shines due to the reflected light of the Sun. The light from the Moon takes 1.3 seconds to reach the Earth.
- It takes 27 days, 7 hours and 43 minutes to complete one revolution around the Earth, and approximately the same time to complete one spin. As a result, same side of the Moon (only 59% of its total surface) is visible on the Earth.
- Only once in a month, we can see the full Moon which is called *Poornima*. A fortnight later, we cannot see the Moon. It is completely invisible. That night is called *Amavasya*.
- The Moon has mountains, plains, depressions (craters).
- No life exists on the Moon. It has neither water nor air.
- Sometimes Moon appears to be getting bigger – **waxing** and from bigger to smaller – **waning**. These are referred as **phases of the Moon**. It is caused by change in angle of the Moon and the Sun.

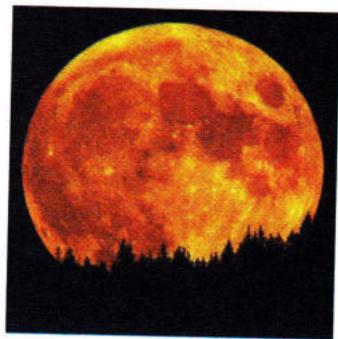


Fig. 13.14: Moon

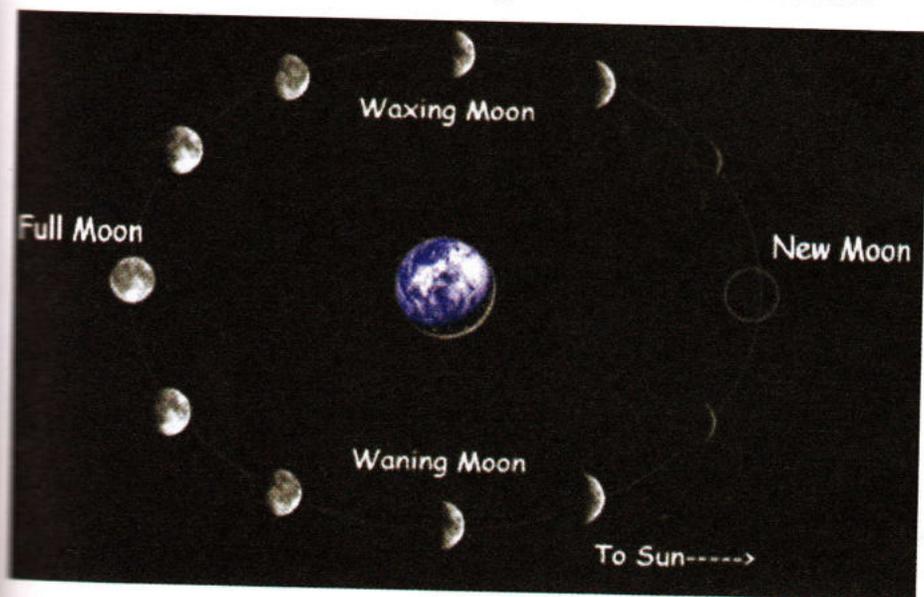


Fact Bubble



Fig. 13.15: Neil Armstrong

Neil Armstrong, an American astronaut, was the first to land on moon on 21 July 1969.



Phases of the Moon

Other Heavenly Bodies in Solar System

1. **Asteroids:** Apart from stars, planets and satellites, there are numerous tiny rocky bodies moving around the Sun. They are very small planets called **asteroids**. Most asteroids orbit the sun in the asteroid belt between Mars and Jupiter. The largest asteroid is Ceres. It measures about 950 km in diameter and has been placed under dwarf planet category.
2. **Meteoroids:** Millions of small chunks of rocks orbiting the Sun are called meteoroids.
 - Some of these meteoroids collide with the Earth's atmosphere and burn brightly while others fall with a flash of light called 'Shooting Stars'.
 - The largest meteoroid (2.7mt long) was found in Namibia in Africa.



Fig. 13.16: Asteroids



Fig. 13.17: Meteoroids





Fig. 13.18: Halley's Comet



Explore!

Mercury takes 88 days to complete one revolution around the Sun, while Uranus takes 84 years. What could be the reason? Find out.

3. **Comets:** These consist of large lump of frozen gas mixed with dust particles. They revolve around the sun in elliptical orbits. They appear as bright stars with a shining tail behind them. The tail can be 20-30 million km long. They glow when they come near the Sun. Hailey's Comet can be seen once in every 76 years. It was last seen in 1985-86. A comet can be seen only when it is close to the Sun.



Let Us Recall

Universe: It is a vast area which contains galaxies, stars, planets, clouds, etc.

Celestial bodies: They are sun, moon, stars and all planets.

Sun: It is a big and fiery ball of hot gases.

Nebula: It is the birthplace of stars or planets.

Planets: They are heavenly bodies or celestial bodies which do not have their own light.

Waxing and Waning: They are two phases of the moon.

Satellites: They are celestial bodies revolving round the planets.



A. Choose the correct answer.

- Solar system refers to:
(a) family of Sun
(b) family of Moon
(c) family of planets
(d) family of stars
- Constellation refers to:
(a) pattern formed by planets
(b) pattern formed by stars
(c) pattern formed by asteroids
(d) patterns formed by meteors
- Which of the following is the giant planet in the solar system?
(a) Mars
(b) Jupiter
(c) Venus
(d) Earth
- Which planet was discovered by J.G. Galle?
(a) Mercury
(b) Neptune
(c) Venus
(d) Saturn



5. Orbit refers to the:
 - (a) path in which planets move around the Sun
 - (b) path in which stars move around the Sun
 - (c) path in which moon moves around the Sun
 - (d) path in which meteors move around the Sun
6. Which of the following is terrestrial planet?

(a) Jupiter	(b) Saturn
(c) Uranus	(d) Venus
7. Point out a planet which has only one satellite:

(a) Venus	(b) Neptune
(c) Pluto	(d) Earth
8. Which of the following has a shining tail behind them?

(a) asteroids	(b) meteors
(c) comets	(d) planets
9. 'Saptarishi' is a group of:

(a) seven stars	(b) six stars
(c) five stars	(d) eight stars
10. Sun is about 150 million kms away from:

(a) Mercury	(b) Earth
(c) Pluto	(d) Mars

B. Answer the following questions.

1. What do you mean by the solar system?
2. What are celestial bodies?
3. Name the eight planets of the solar system.
4. How do the planets shine?
5. What is Milky Way?
6. Name the two phases of Moon. Why does it appear to be getting bigger and smaller during different nights?
7. Why do we see the same side of Moon night after night?
8. Why is the Earth called a blue planet?
9. What do you know about satellites?

C. Complete the following sentences.

1. The surface temperature of Sun is _____.
2. The distance of celestial bodies as measured from the Earth is in _____.
3. To reach the Earth, moonlight takes _____.
4. A cloud of hot gases and dust is _____.



5. Planets revolve around the Sun due to _____.
6. _____ can be seen once in 76 years.
7. A planet nearest to the Sun is _____.
8. The biggest planet is _____.
9. A cluster of stars form _____.

D. Distinguish between the following.

1. Meteoroids and Asteroids
2. A Satellite and a Planet
3. Constellation and Galaxy
4. Mercury and Jupiter

E. State whether the following statements are true or false.

1. All the planets are heavenly bodies.
2. Mercury is the closest planet to the Sun.
3. Venus is bigger than the Earth.
4. Constellation is the other name given to galaxy.
5. The largest asteroid is called meteoroid.

F. Match the following.

Column A

1. A natural satellite of the Earth
2. The asteroids are a cluster of celestial bodies
3. Pluto
4. Milky Way
5. Meteoroids

Column B

- (a) between Mars and Jupiter
- (b) Akash Ganga
- (c) millions of small chunks of rocks
- (d) dwarf planet
- (e) the Moon

1. Individual Project

Draw a diagram showing all planets.

2. Field Trip

Visit a planetarium with your parents or friends and describe your experience in the notebook.





Globe, Latitudes and Longitudes



Latitudes and Longitudes

Before we study about the globe, you should know the four major directions – North, South, East and West.

The shape of the Earth is **spherical**. This means that the Earth is flat in its northern and southern extremes and bulging in the middle.

However, if you want to see how exactly the Earth looks like, look at a globe.

Globe is a three dimensional model of Earth which shows the tilt, actual shape and relative position of the continents and oceans near perfectly.

Globe is fixed on a stand. It can be made to spin on its axis.

Globes are available in different sizes according to requirements. For instance, large-sized globes are kept in libraries and cannot be carried easily; small globes can be used for personal use.

Globes show very limited features such as countries, continents, oceans, ocean routes and physical features. Therefore, their use is limited.

A globe is mounted on a stand with its axis tilted by $23\frac{1}{2}^{\circ}$ from the vertical. This is because our Earth is actually tilted in this way. The axis is an imaginary line on which the Earth rotates.

The two extreme ends of this axis on the globe are two poles of the Earth: 1. North Pole 2. South Pole.

The globe is again divided into two equal halves by a horizontal imaginary line. This is **known as Equator**. It is drawn around the middle of the Earth. Here, the circumference of the Earth is greatest.

Equator divides the Earth into two hemispheres – the Northern Hemisphere and the Southern Hemisphere.

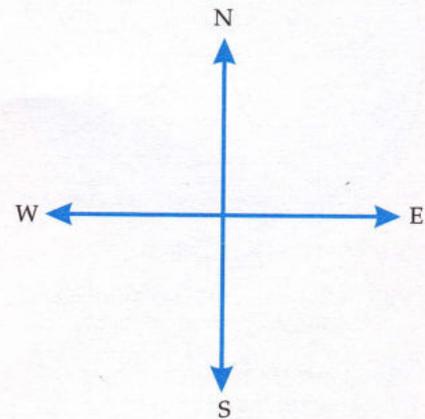


Fig. 14.1: Directions



Fig. 14.2: Globe





Explore!

The Pole Star can also be used to calculate the latitude of a place. Find out how.



Fact Bubble

The Northern Hemisphere has more land than water. It has North America, Europe, Asia and Northern Africa.

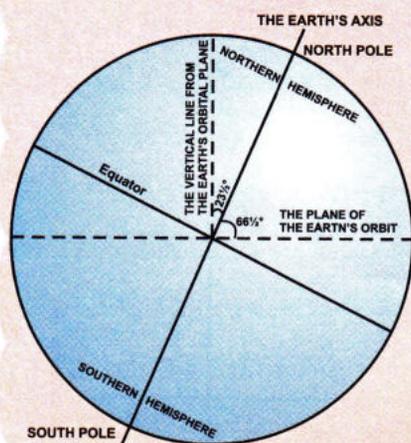


Fig. 14.3: Northern Hemisphere and Southern Hemisphere

Southern Hemisphere has more water and less land. It has major oceans – Antarctic, S. Pacific, S. Atlantic and Indian Ocean; Continents – Australia and Antarctica.

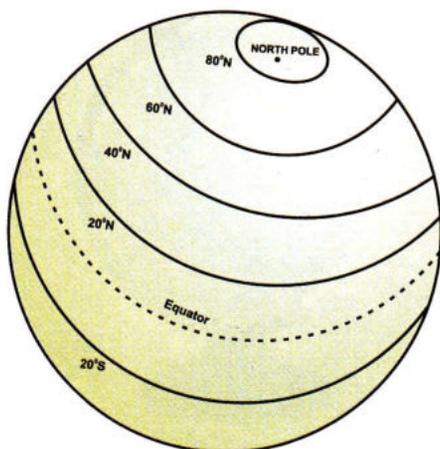


Fig. 14.4: Parallels of Latitude

India is located in the Northern Hemisphere. Yet another imaginary line which is **Prime Meridian**, cuts across the Earth vertically and divides it into two equal halves – the Eastern Hemisphere and the Western Hemisphere.

Parallels of latitude and meridians of longitudes are imaginary lines drawn horizontally and vertically on the globe to find locations. The imaginary lines drawn parallel to equator are termed as **latitude**.

They are circular lines. They run from east to west direction around the Earth. The size of these lines decreases from Equator to north and south directions. They are parallel to each other, therefore called **parallels of latitude**. Equator represents zero degree latitude. Since the distance of the poles from Equator is 1/4th of a circle around the Earth, it will measure 1/4th of 360° , i.e., 90° . Therefore, North Pole is 90° and South Pole is 90° . Hence, in all the latitudes, north of Equator is referred to as north latitude and south of Equator as south latitude.

The value of each latitude is denoted by letters N or S indicating north or south of Equator. For example, latitude of Mumbai is $18^\circ 58' N$ and $73^\circ 51' W$ and Sydney is $33^\circ 55' S$ and $151^\circ 17' E$.

Important Parallels of Latitudes

If we move the globe on its axis in front of a torch-light we will see that places near the Equator always remain turned towards the Sun and receive sunlight. To differentiate these places, some important parallels of latitudes are as follows:

1. **Equator (0°)** is the centre of the Earth forming the circumference.
2. **Tropic of Cancer ($23\frac{1}{2}^\circ N$)** in the Northern Hemisphere. It marks the northern limit of the overhead range of the Sun.
3. **Tropic of Capricorn ($23\frac{1}{2}^\circ S$)** in Southern Hemisphere. It marks the southern limit of the overhead rays of the Sun.
4. **Arctic Circle ($66\frac{1}{2}^\circ N$)** in the Northern Hemisphere.
5. **Antarctic Circle ($66\frac{1}{2}^\circ S$)** in the Southern Hemisphere.

Unequal falling of sunrays due to spherical shape of Earth, has given rise to Heat Zones on the Earth's surface. Heat zones can be located according to parallel of latitudes. They are (1) Torrid Zone (2) Temperate Zone (3) Frigid Zone.

1. **Torrid Zone** receives the maximum heat of the Sun due to vertical sunrays. It ranges between Tropic of Cancer ($23\frac{1}{2}^\circ N$) to Tropic of Capricorn ($23\frac{1}{2}^\circ S$) and receives vertical sunrays at least once a year. It is the hottest zone which never experiences winters on the Earth.
2. **Temperate Zone** is located between Tropic of Cancer ($23\frac{1}{2}^\circ N$) to Arctic Circle ($66\frac{1}{2}^\circ N$) in Northern Hemisphere and Tropic of Capricorn ($23\frac{1}{2}^\circ S$) to Antarctic Circle ($66\frac{1}{2}^\circ S$) in Southern Hemisphere. The sunrays never fall vertically in this zone. The Sun is never overhead. The angle of sunrays keeps on decreasing from



23½° to 66½° both north and south of Equator. This zone is neither hot nor cold, but experiences moderate temperatures. Hence, such a zone is called a temperate zone.

- Frigid Zone** lies between 66½° to 90° in both Northern and Southern Hemispheres. It is the coldest zone because the Sun does not rise above the horizon. Sun's rays are slanting. Here, the winters are extremely cold and this zone experiences very short summer season.

Longitudes

These are vertical lines on the globe running north to south between the poles. They are arcs or half circles on the globe. Lines of longitude are measured from the centre of the Earth. The most important longitude is numbered 0°, i.e., Prime Meridian and the line directly opposite to it is 180°. Thus, either way E and W longitudes are 360°, i.e., 180°E and 180°W. All the longitudes are of equal length.

Together, two adjoining longitudes appear like a segment of an orange.

- All the meridians meet at the poles.
- The distance between the longitudes decreases from Equator to poles.
- The value of each longitude is followed by 'E', i.e., east and 'W', i.e., west of Prime Meridian.

The Prime Meridian, just like 0° Equator, divides the Earth into two equal halves – the Eastern Hemisphere and the Western Hemisphere.

For knowing the location of a place from a given line (longitude) of reference, it is important to understand longitude. Therefore, these lines of references are called **Meridians of Longitudes**.

Two adjoining meridians of longitudes and latitudes are divided into 60 minutes. Therefore, ½° is 30 minutes. It is the subdivision of a degree latitude and longitude, e.g. 23°30', east is actually 23½°E.

Grid

Crossing of lines, latitudes and longitudes on the globe forms a network of lines. It is called **grid**.

Using this grid we can locate any place on Earth by referring to the point where latitudes and longitudes intersect.

Longitudes Help in Measuring Time All Over the World

The Earth rotates on its axis from west to east direction and takes 24 hours (approx.) to complete one round. Hence, Earth takes 4 minutes to cross 1° longitude and 30 minutes to cross 7½° longitude and 60 minutes or 1 hour to cross 15° longitude, from 0° to 180° a total of 12 hours because $180^\circ \times 4 \text{ minutes} = 720 \text{ minutes}$ or 12 hours.

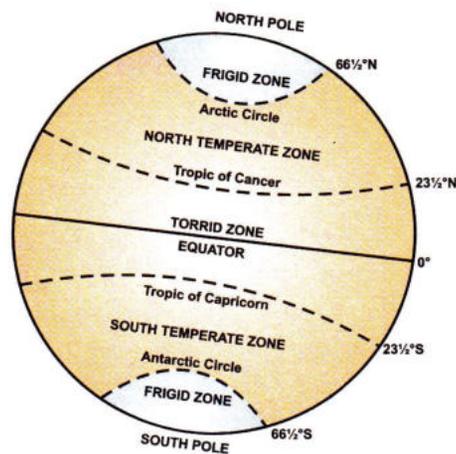


Fig. 14.5: Heat Zones



Fact Bubble

Millions of years ago, India was located in Southern Hemisphere.

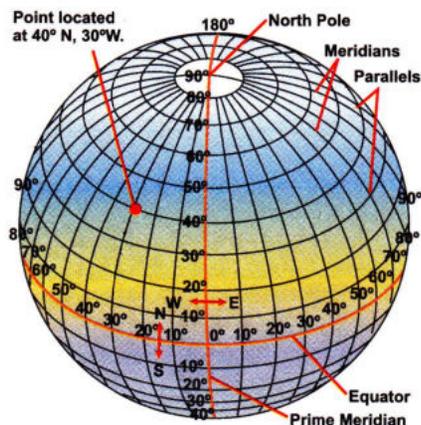


Fig. 14.6: Meridians of Longitude



Fact Bubble

Prime Meridian passes through Greenwich village near London. It is exactly 5½ hours ahead of Indian Time.



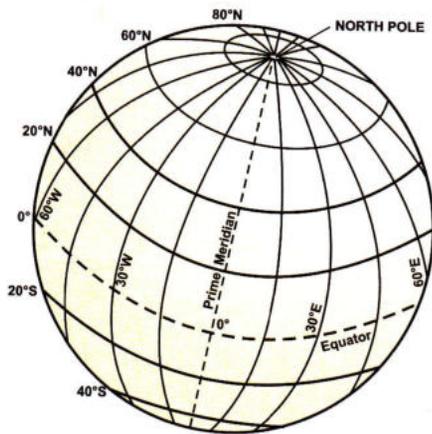


Fig. 14.7: Grid

Since the Earth is round and rotating on its axis, some place will see the Sun and others will remain in darkness. Thus, **days and nights are caused**. However, Sun cannot rise in the whole world at the same time because for each degree of longitude local time varies by 4 minutes. Therefore, local time is determined by the shadow cast by the Sun during day.

Any place located east of another will be ahead of the other in time. Similarly, any place located west of another will be behind the other in scheduled time. For example, when it is morning in Japan, it is night in Britain. Japan is in east and Britain in west.



Fact Bubble

Grid is an important tool of survey for pinpointing a dot on a map.

Standard Time

We do not follow local time in India because it would be inconvenient while travelling from east to west or west to east directions.

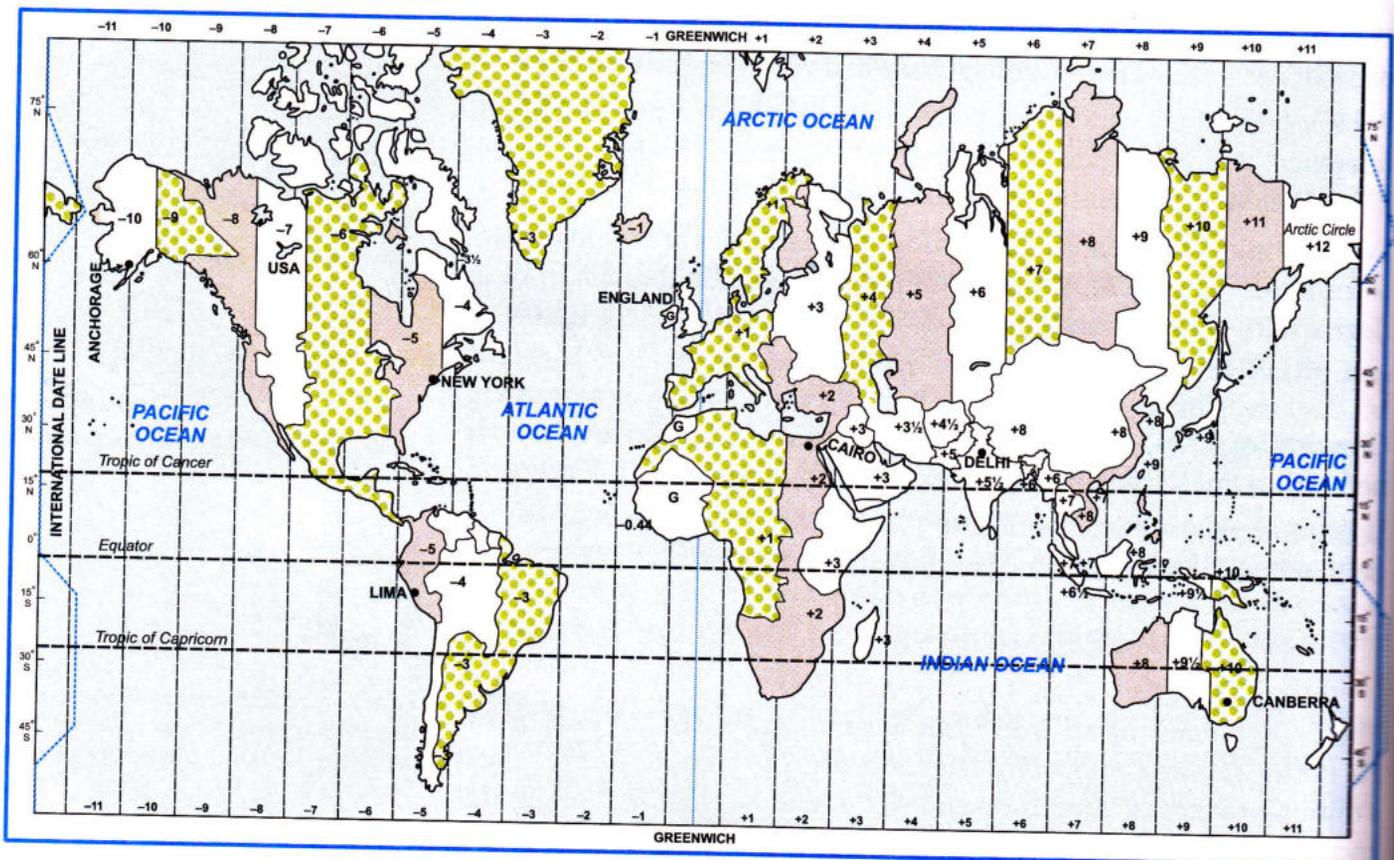
Imagine you are going from Dispur in Assam to Ahmedabad in Gujarat crossing several longitudes and adjusting your watch according to local time of each place. All the places on different meridians would have different local time.



Explore!

Find out how many countries have more than one time zone.

To avoid this confusion of local time, standard time has been adopted. It is fixed according to the location of central most longitude of a country.



Standard Time Zones of the World



In India, $82\frac{1}{2}^{\circ}\text{E}$ longitude near Allahabad (the central place) is selected as the standard meridian time.

We should know that each standard meridian is fixed with reference to Greenwich Meridian (0° longitude), is called **Greenwich Mean Time** (GMT). Indian Standard Meridian is $82\frac{1}{2}^{\circ}\text{E}$. It is $5\frac{1}{2}$ hours ahead of Greenwich Mean Time (0° Prime Meridian passes over Greenwich village near London). Suppose, it is 9:30 a.m. (in London), it will be 3:00 p.m. in India.

The local time at this meridian is taken as the standard time for India. It is known as **Indian Standard Time** (IST).

The whole world is divided into 24 standard time zones, each of which differs from the next by 15° of longitudes or one hour in time.



Fact Bubble

The Earth has 24 time zones. Russia has eleven time zones. If eastern part of Russia is having sunrise, it is still night in western part.



Fact Bubble

Canada has 6 time zones and USA has 4 time zones.



Fig. 14.8: Different local time



Let Us Recall

Globe: It is a true model of the Earth which can show limited features only.

Equator: It is an imaginary line dividing the Earth into two equal halves – Northern Hemisphere and Southern Hemisphere.

Pole: Poles are the two extreme ends of the Earth in north and south.

Axis: it is the imaginary line which passes through the centre of the Earth joining two poles.

Prime Meridian: It is the 0° longitude passing through Greenwich village, London meeting two poles.



A. Choose the correct answer.

- Which of the following represents direction and distances correctly:
 - map
 - globe
 - sketch
 - graph



2. India is located in:
 - (a) Southern Hemisphere
 - (b) Eastern Hemisphere
 - (c) Western Hemisphere
 - (d) Northern Hemisphere
3. Longitudes help us to find the:
 - (a) distance
 - (b) climate
 - (c) time
 - (d) atmospheric pressure
4. Latitudes are circular lines which runs from:
 - (a) west to east
 - (b) east to west
 - (c) north to south
 - (d) south to north
5. The whole world is divided into:
 - (a) 12 standard time zones
 - (b) 6 standard time zones
 - (c) 24 standard time zones
 - (d) 36 standard time zones
6. Which of the following is the degree of Prime Meridian?
 - (a) 0° longitude
 - (b) 0° latitude
 - (c) 0° East
 - (d) 0° West
7. Which heat zone is located from Tropic of Cancer to Arctic Circle and Tropic of Capricorn to Antarctic Circle?
 - (a) frigid zone
 - (b) torrid zone
 - (c) equatorial zone
 - (d) temperate zone
8. Name the season that Frigid zone does not experience.
 - (a) winter
 - (b) summer
 - (c) autumn
 - (d) spring
9. Which of the following is a Standard Meridian of India?
 - (a) $82\frac{1}{2}^\circ$ E longitude
 - (b) $82\frac{1}{2}^\circ$ W longitude
 - (c) $82\frac{1}{2}^\circ$ E latitude
 - (d) none of these

B. Answer the following questions.

1. What is the true representation of the Earth?
2. Define the term 'grid'.
3. Into how many time zones is the world divided?
4. Why is standard time adopted? Mention the Standard Meridian of India.
5. Name the three most important latitudes in the world.
6. Where do all the meridians meet?
7. Torrid zone is the hottest and frigid zone is the coldest. Give reasons.
8. How are days and nights caused?
9. How are heat zones formed?
10. What is the importance of latitudes and longitudes?
11. Find out the following with the help of an Atlas.

City	Longitude	Latitude	Hemisphere
Singapore			
Tokyo			
Mumbai			
London			
Cape Town			



C. State whether the following statements are true or false.

1. Globes are available in a particular size
2. Globes can show a part of the Earth's surface.
3. Equator divides the Earth into two equal halves.
4. Indian Standard Meridian is $82\frac{1}{2}^{\circ}$ E.
5. A network of lines of latitude and longitude is called a grid.

D. Fill in the blanks.

1. The spinning of globe around the axis is called _____ which causes _____ and _____.
2. The two latitudes forming the northern and southern limit of direct falling of sunrays are _____ and _____.
3. Permanent snow can be found beyond _____ circle and _____ circle.
4. The latitude of Equator is 0° , Tropic of Cancer _____ and Tropic of Capricorn _____.
5. The location of temperate zone is between _____ to _____ latitudes and experiences _____ temperatures.
6. The places east of Prime _____ will be ahead of _____ time.
7. Indian Standard Meridian is _____.

E. Give reasons.

1. Globe is known as an actual model of the Earth.
2. To know the local time, standard time has been adopted.

F. Distinguish between the following.

1. Latitude and Longitude.
2. Temperate zone and Torrid zone.
3. Local time and Standard time.

1 Individual Activity

Draw the diagram of heat zones and explain.

2 Suggested Activity

A football match is being played between India and Argentina at London (Near Greenwich). This match begins at 11 a.m. according to local time at London. Find out the time when we can watch the telecast of the football match at Delhi according to the Indian Standard Time.

(Delhi-longitude: $77^{\circ} 12' E$)



15



Maps



Fact Bubble



Fig. 15.1: Ptolemy

Ptolemy, an Egyptian geographer, was the first to draw 'North-Line' on a map to show directions.



Fact Bubble

Three thousand years ago, Egyptians prepared maps with a view to collect revenue from their peasants.

You have drawn pictures of animals, fruits, vegetables and buildings as they are seen. Have you ever tried drawing the picture of land on which you live?

Probably not. Shape of the land, being vast, is not visible. You may use the globe. But globe cannot show all the details, information, individual area or a country. Therefore, maps have been developed to suit various purposes and requirements.

A **map** is a graphical representation of the Earth's surface or a part of it on a flat surface.

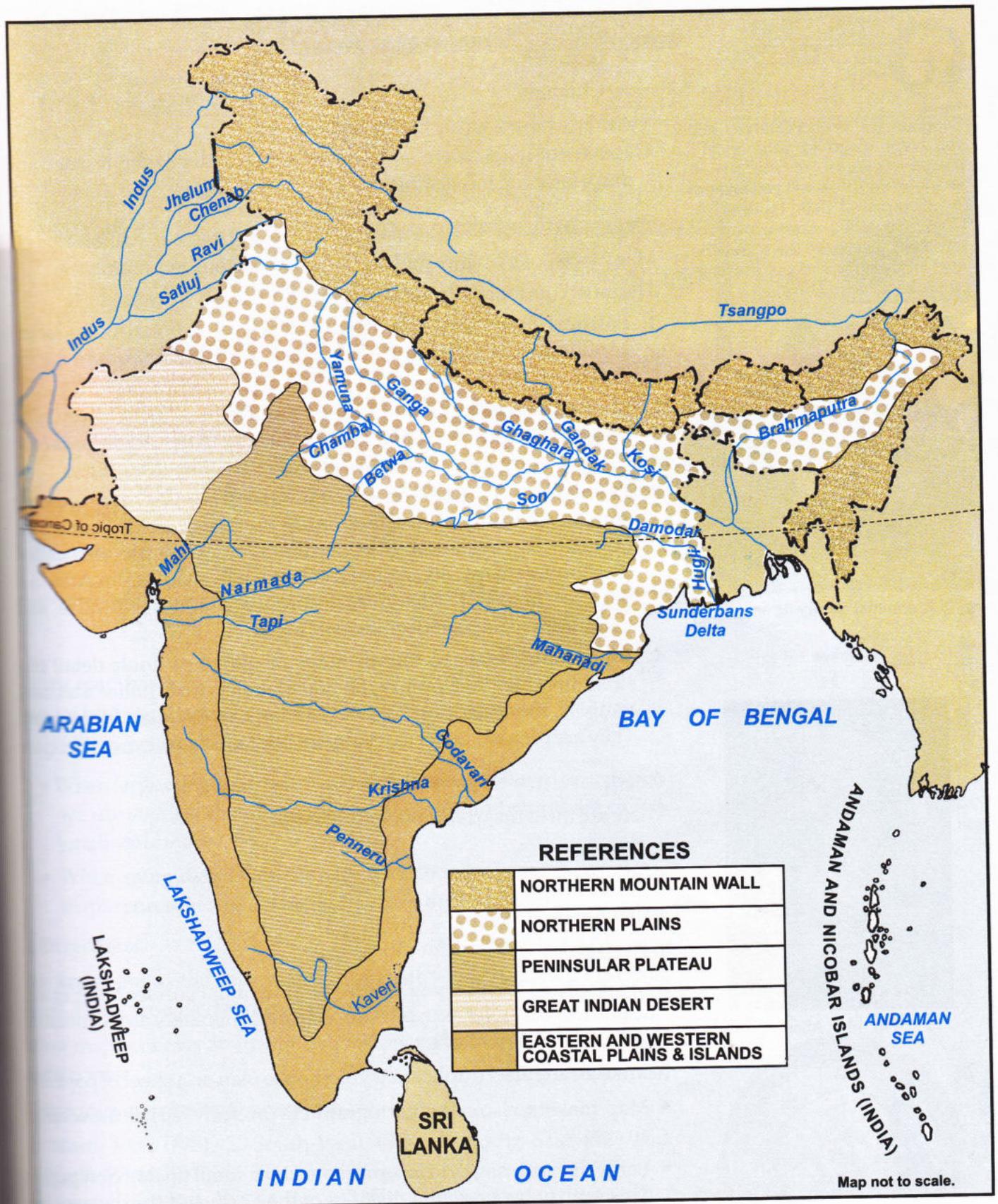
Comparison Between Map and Globe

- Map is two-dimensional while the globe is three-dimensional.
- Globes are small and can be used to present only basic information about the Earth. But detailed information about the Earth can be seen in the large maps.
- Map can represent countries, continents and small areas as well, which the globe cannot.
- Map can easily be transported and serves many purposes. For example, atlas which is a bound collection of maps, gives diverse information. But globe is not always portable and gives limited information.

Advantages of Maps

Maps are important and useful due to certain advantages:

- Maps can be drawn both for larger and smaller areas.
- They are portable and serve many purposes.
- Maps furnish us with a wealth of information. A variety of information can be represented on the following maps:
 - Political and Physical
 - Vegetation and Wildlife
 - Minerals



Map 15.1: A map showing Natural Regions and Rivers of India





Fact Bubble

Suppose you live in Chennai and you want to go to your uncle's house in Delhi. If you are a stranger, then how will you find out in which part of Delhi he lives? At first, for your convenience, obviously you would like to see the map of Delhi to find out the area where he lives.



Fig. 15.2: A tourist observing an area map

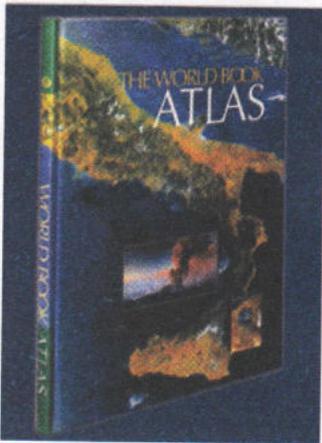


Fig. 15.3: Atlas

- Agriculture
- Industries
- Climate

- A map acts as a guide for the tourists.
- Colourful maps leave an impact on the minds of the learner and make learning interesting.

Types of Maps

Many types of maps are prepared to serve various requirements.

The most commonly used maps are:

1. **Political maps** showing international and national boundaries, continents, countries and states. These maps are important for the defence of the country.
2. **Physical maps** represent various landforms – mountains, hills, plateaus, plains and water bodies such as rivers, lakes, seas, etc. Climatic conditions can also be represented on such maps.
3. **Thematic maps** focus on specific information, e.g. representing climatic conditions, distribution of minerals, crops, industries, population, vegetation, transportation, etc. They are also called distribution maps. Such maps can be seen in an **atlas**. An Atlas is a book of maps. It also gives information about latitudes and longitudes of important cities in its index.
4. **Topographic maps** or **Survey maps** display the minute detail of a small area. For example, type and size of roads, police stations, temples, mosques, huts, railway stations, wells, lakes, ponds, etc. They are prepared after carrying out a detailed survey.

Components of Maps

There are three major components of maps:

1. Distance
2. Direction
3. Symbols and colours.

1. Distance

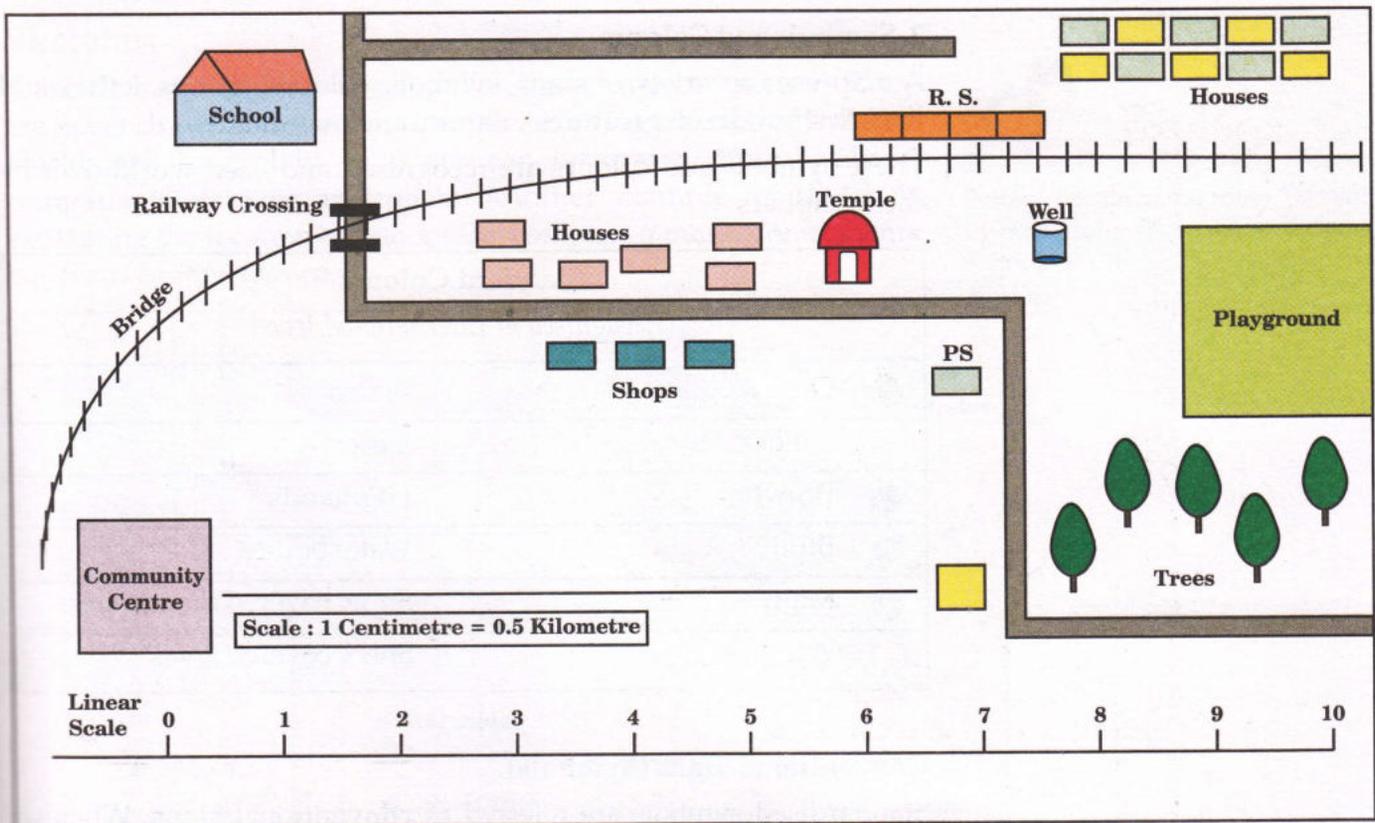
Can you show a country or Earth as it is on a flat surface? Not at all. The Earth or an area has to be reduced proportionately as it cannot be represented in its real size.

It is like an architect duplicating your house plan on a sheet of paper.

- Map-makers, also called **cartographers** carefully reduce the scale of an area.
- Large distance of world is represented by a small distance on paper. This ratio between actual distance of the Earth and the distance on map is called **scale**.

Maps should be explained through the incidences of daily life, e.g. map of a village or map of a house or any other.





Map 15.2: Scale map of a village

Every map has a scale. For example, 0.5 km of real distance can be shown by 1 cm distance on map. Hence, the scale would be 1 cm on map representing 0.5 km or 1/2 km.

- When large areas like continents and world are shown on a paper, we use small scale, *e.g.*, maps of continents and world are called small scale maps.
- When more details are shown, we use large-scale maps. Such maps represent smaller areas, *e.g.*, map of New Delhi.

2 Directions

We know about the four major directions – north, south, east and west. These are called **cardinal points** also.

Most maps contain an upstanding arrow indicating north at the top right corner.

Other four intermediate directions are:

1. North-East (NE), 2. South-West (SW), 3. South-East (SE) and 4. North-West (NW).

The directions help finding locations on the map.

Directions in real world can be found by using an instrument called magnetic compass. The needle in compass always indicates north-south direction.

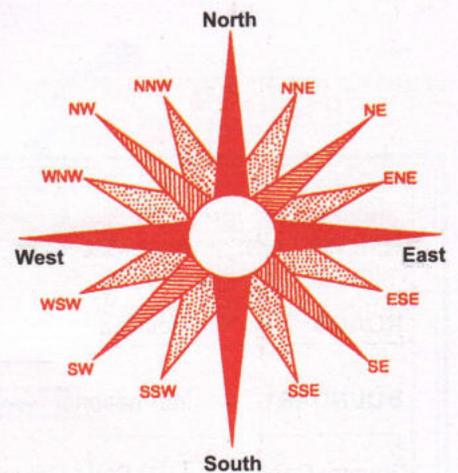


Fig. 15.5: Magnetic Compass



3. Symbols and Colours

A map uses a variety of signs, symbols, colours, shades, letters and lines to show diverse features – natural and man-made.

These symbols and colours are recognised and used world over by cartographers.

Standard Colours (Recognised at International level)		
	Green	Plains
	Yellow	Deserts
	Brown	Highlands
	Blue	Water bodies
	Mauve	Snow covered mountains
	White	Snow covered areas

Table: 15.1

Conventional Signs (Symbols)

Standardised symbols are referred as **conventional signs**. Wherever you are, you can read a map conveniently. Some conventional symbols are given below.

The colours and symbols not only give us a world of information, but also make it interesting to interpret. It is the code language used by geographers.

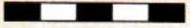
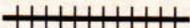
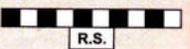
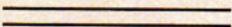
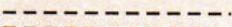
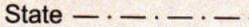
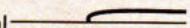
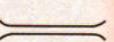
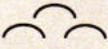
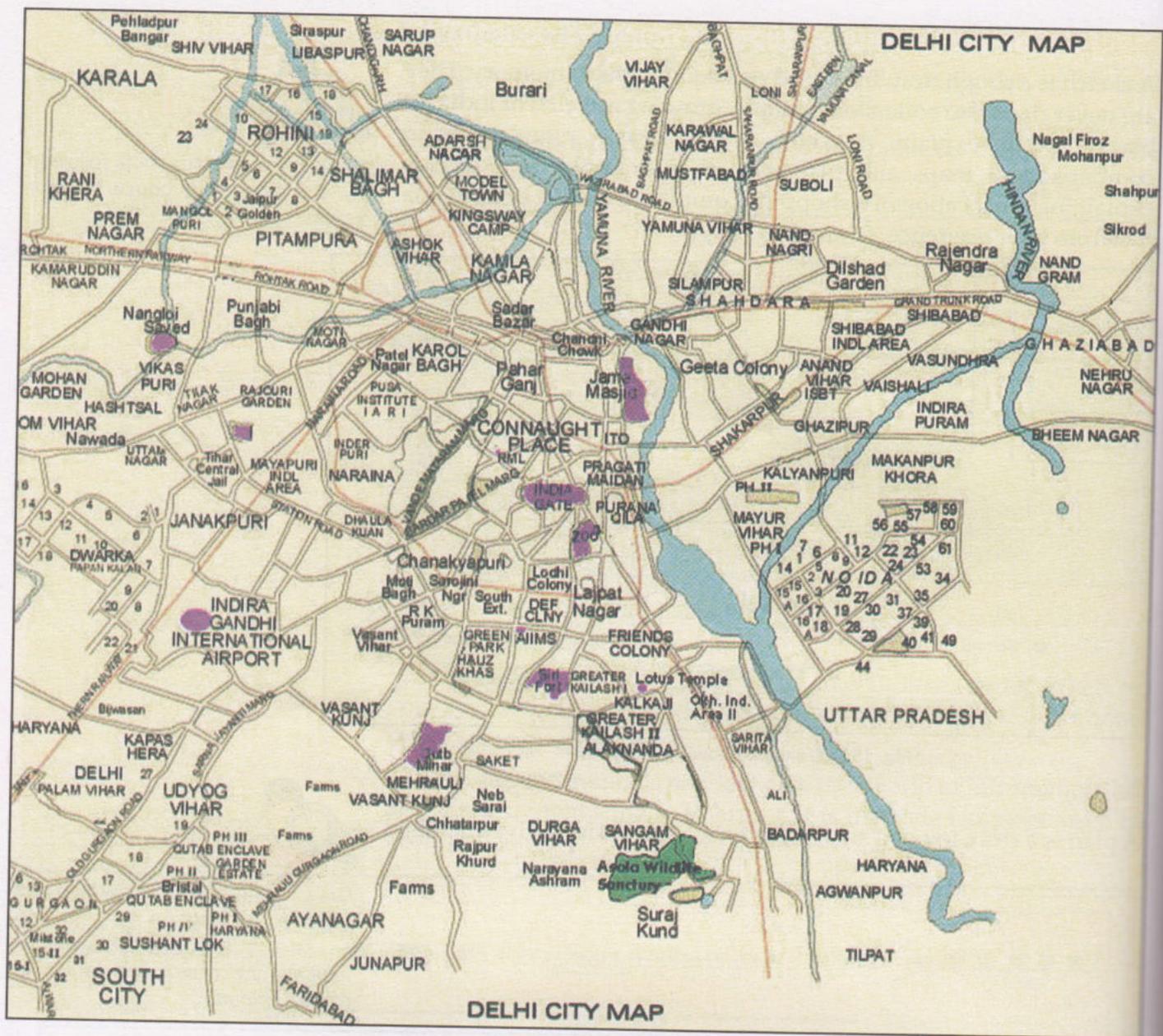
RAILWAY LINE	Broad Gauge 	Metre Gauge 	Railway Station 	
ROADS	Metalled 	Unmetalled 		
BOUNDARY	International 	State 	District 	
Country Capital 	State Capital 	Other Towns 		
River 	Well 	Tank 	Canal 	Bridge 
International Airport 	Domestic Airport 	Major Ports 		
Temple 	Church 	Mosque 	Chhatri 	
PO Post Office	PTO Post & Telegraph Office	PS Police Station		
Settlement 	Graveyard 	Trees, Grass 		

Fig. 15.6: Conventional Symbols





Map 15.3: Map of Delhi (Large scale map)



Let Us Recall

Political maps: These show national and international boundaries.

Physical maps: These show various landforms and climatic conditions.

Scale: A ratio of distance on a map to distance in reality.





EXERCISES

A. Choose the correct answer.

1. A graphical representation of the Earth's surface or a part of it on a flat surface is called:
(a) globe (b) sketch
(c) map (d) atlas
2. Which type of map represents climatic conditions?
(a) political map (b) physical map
(c) thematic map (d) topography map
3. Map-makers are also called—
(a) photographers (b) scientists
(c) cartographers (d) astronomers
4. Drawing of small area on a large scale is known as:
(a) map (b) sketch
(c) graph (d) plan
5. At international level, which colour is used to represent highlands?
(a) green (b) yellow
(c) blue (d) brown
6. If we want to locate distribution of minerals, we should use:
(a) physical map (b) political map
(c) thematic map (d) topography map
7. Which of the following directions is indicated by a magnetic compass?
(a) north direction (b) north-south direction
(c) south direction (d) east-west direction
8. In which of the following forms, the code language used by the geographers is represented?
(a) scale (b) directions
(c) colours and symbols (d) none of these

B. Answer the following questions.

1. Define map. How is it different from a globe?
2. What is scale?
3. Mention four cardinal points.
4. Kolkata and New Delhi are approximately 1100 kilometres apart. If the scale of map is 1 centimetre = 100 kilometres, then calculate the distance in centimetres.
5. What is sketch?
6. List out four types of maps. Give one example of each.
7. Which types of maps are able to show more details?
8. Which particular maps can represent larger areas?
9. What are the features represented when standard colours – blue, green and brown are used?
10. What is conventional symbol? What is PO and PS stands for?



C. Fill in the blanks.

1. A rough drawing based on observation is _____.
2. Snow covered mountains in Atlas are represented by _____ colour.
3. _____ is a collection of maps.
4. _____ maps show more details with the help of _____ symbols.
5. Minute detail of small area are shown on _____ maps.
6. _____, _____, _____ are the major components of map.
7. _____ is the most accurate representation of earth.

D. State whether the following statements are true or false.

1. Physical maps represent various landforms, waterbodies and soils.
2. Topographic survey sheets show limited features.
3. Plan gives detailed information of small area.
4. North is not a cardinal point.
5. Globes are more useful than maps.
6. Maps cannot be easily carried.
7. Scale is the ratio between the distance on the ground and on the map.

E. Distinguish between the following in a tabular form.

1. A sketch and a plan
2. Political maps and thematic maps.

1. Individual Activity

- (a) Draw a diagram showing eight directions.
- (b) On the map of Delhi, calculate the distance between the following when the scale is 1 centimetre representing $\frac{1}{2}$ kilometre:
 - (i) Between Nizamuddin and New Friends Colony
 - (ii) Between Jangpura and Okhla Industrial Area II
 - (iii) Between Alipur and Kamla Nagar
 - (iv) Between India Gate and Ashram
 - (v) Between Bhajanpura and Silampur.





Motions of the Earth

When you observe the sky – the Sun, the Moon and stars appear to be changing their positions. This is due to the movement of Earth.

The earth is constantly in motion. It moves in space in two distinct ways:

(i) Rotation (ii) Revolution.

Rotation

Rotation is the daily movement of the earth around its axis. It is from west to east direction and completes in 24 hours time. The Earth is tilted on its axis at an angle of $66\frac{1}{2}^\circ$ with its orbit plane.

While rotating, the Earth never changes tilt on its axis. This tilt is called **inclination of earth**.

Day and Night

Rotation of the Earth causes a distinct day and night – 12 hours day and 12 hours night. Since the shape of Earth is spherical, only half of it gets sunlight and the other half remains in darkness. Part of the earth facing the Sun experiences day and the other half in shadow experiences night. A part of the Earth's surface that emerges from darkness experiences sunrise. Later, when it is obscured from the rays of Sun, it experiences sunset.

The line or circle which divides the day from night on Earth is called **circle of illumination**.

- It does not coincide with the earth's axis.
- One of the poles experiences day or night.
- The Earth never changes its axial tilt.
- The Earth never stops rotating. Otherwise we would not experience day and night at all.

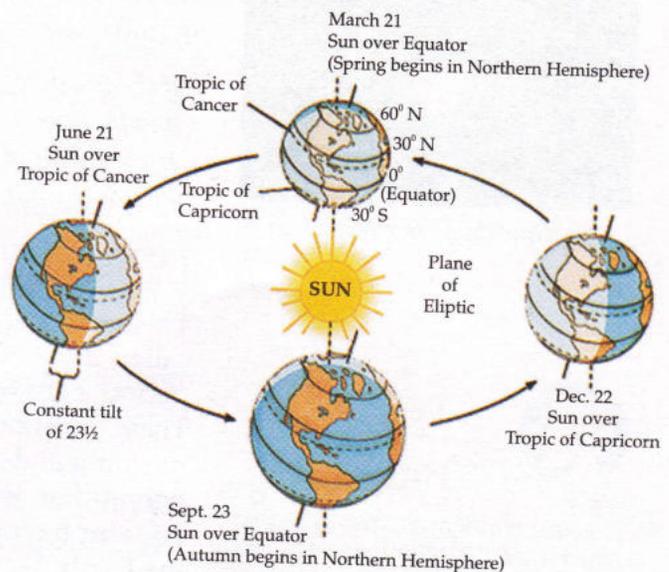


Fig. 16.1: Rotation and Revolution



Explore!

A ball and a lighted candle is to be taken which represent the Earth and Sun respectively. A point should be marked on the ball to represent town x. The ball is placed in front of the candle in such a way that there lies a complete darkness in the town pointed. As the ball is moved from left to right slightly, the town will have its sunrise. If the ball continues to move, the point gets away from the Sun and there is sunset.





Fig. 16.2: Sunrise

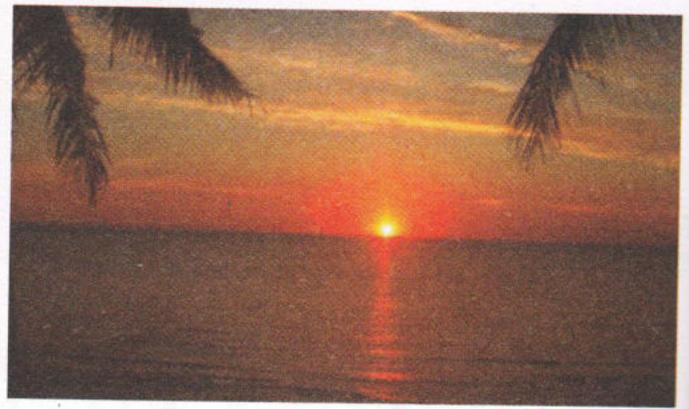


Fig. 16.3 : Sunset

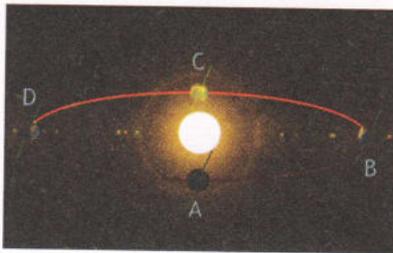


Fig. 16.4: Circle of Illumination

If the Earth stops rotating on its axis, the part of it facing the Sun would always have day and cause excessive heat. The other half would experience night with freezing temperatures.

*If the Earth was not tilted, day and night would always be of equal length and there would be one season throughout the whole year. How boring!
If the Earth stops rotating, it may lead to the death of plant and animal kingdom, change in weather, excessive heat and cold.*



Fact Bubble

Due to the motions of the earth, we experience day, night, dawn, noon, twilight and even eclipses of the sun and the moon.

The earth travels 939,886,400 km in a single orbit.

Dawn, Noon and Twilight

The early period (diffused light) between darkness and sunrise is called **dawn**. In the midday, Sun is seen overhead called **noon**. The period between sunset and complete darkness is called **twilight**. These phenomena happen before the appearance of the Sun in morning and after the setting of the Sun in evening respectively. The light of Sun is still visible but not the Sun. **The places away from the equator have long periods of dawn and twilight due to axial tilt of the Earth.**

Revolution

The Earth revolves around the Sun along the elliptical path at the speed of more than 65,000 miles per hour. One round is completed approximately in 365 days and 6 hours.

This annual movement of Earth around the Sun is called **revolution**. Six hours of each year are added to form one day in 4 years time. This extra day is added to the month of February which generally has 28 days. Hence, every fourth year, February has 29 days. Such a year with 366 days is called **Leap Year**.

While revolving around the Sun, Earth maintains its axial tilt.

This phenomenon results in:

- Various seasons – spring, summer, winter and autumn on the Earth.
- Varying lengths of day and night.
- One of the Poles being in light or darkness for a long time in a year.

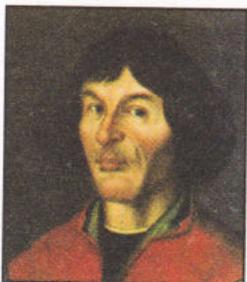


Fig. 16.5: Nicholas Copernicus made some major observations related to eclipses of moon.



Revolution and Seasons

Due to revolution of the Earth around the Sun, various seasons are caused. All seasons follow each other and it is called **cycle of Seasons**.

Study the Cycle of Seasons (see figure 16.6) and observe the position of earth during different times in a year.

On 21st June, due to axial tilt of Earth, Northern Hemisphere appears to be inclined towards the Sun. Sunrays are falling directly on the Tropic of Cancer $23\frac{1}{2}^{\circ}\text{N}$. Consequently, more heat is received which results in summer in Northern Hemisphere. Northern Pole receives slanting sunrays. However, Arctic Circle ($66\frac{1}{2}^{\circ}\text{N}$) to North Pole (90°N) experiences continuous daytime for about six months. This position is called **summer solstice**. Longest day and shortest night occur on 21st June at places in Northern Hemisphere.

In Southern Hemisphere, the conditions are reversed. It is winter season. Days are shorter and nights are longer.

On 22nd December, the Tropic of Capricorn ($23\frac{1}{2}^{\circ}\text{S}$) receives direct rays of Sun and South Pole is inclined towards it. Now, the Southern Hemisphere experiences summer and longer days than nights.

Antarctic Circle to South Pole remains in constant light for six months. The reverse happens in the Northern Hemisphere. This position of the Earth is **winter solstice**.

Australia, South Africa, Argentina in Southern Hemisphere celebrate their Christmas in summer while Britain, USA and India in winter in Northern Hemisphere.

On 21st March and 23rd September, direct rays of Sun fall on the Equator (0°). Entire world experiences equal days and equal nights. This position is called **equinox** which means equal period of sunshine. Both the poles receive sunlight as the angle of illumination passes through them.

On 21st March, it is spring in the Northern Hemisphere and autumn in the Southern Hemisphere. The opposite is the case on **23rd September**, it is autumn in the Northern Hemisphere and spring in the Southern Hemisphere. So, it is clear that seasons of Northern Hemisphere are exactly opposite to the seasons of Southern Hemisphere.

Thus, revolution shows that tropical areas receive maximum sunshine and heat while the polar regions receive the least sunshine and hence, severe cold temperature.

Both rotation and revolution, weather patterns, winds and cloud formation on the Earth's surface are important for the cycle of life.

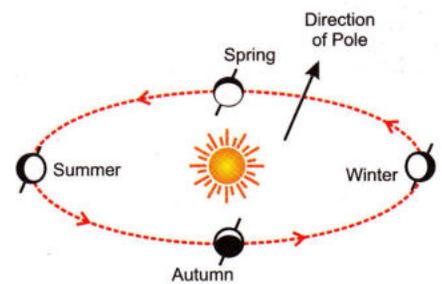


Fig. 16.6: The Seasons



Fact Bubble

Rotation causes day and night. Revolution causes changes in season.



Explore!

What would happen if the Earth only rotated but did not revolve? Find out and discuss.



Fig. 16.7: Norway—the land of midnight Sun





Let Us Recall

Rotation: It is the spinning of the Earth on its axis.

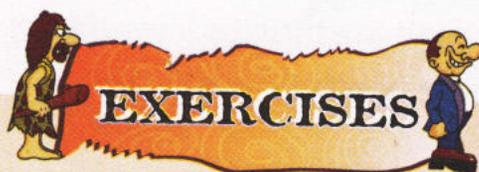
Revolution: It is annual movement of Earth along its orbit causing seasons.

Circle of illumination: It is the circle which divides the day from night.

Axial tilt: It is the Earth which is tilted at an angle of $66\frac{1}{2}^\circ$ to its orbit plane. It is also called inclination of Earth.

Dawn: It is the period of diffused light before sunrise.

Twilight: It is the period of light between sunset and complete darkness.



A. Choose the correct answer.

- The period between sunset and complete darkness is known as:
(a) dawn (b) twilight
(c) evening (d) dimlight
- Days and nights are caused by:
(a) rotation of the Earth (b) revolution of the Earth
(c) movement of the Sun (d) cycle of seasons
- The Earth rotates from:
(a) east to west (b) west to east
(c) north to south (d) all directions
- The axis of the Earth is inclined at an angle of:
(a) 90° (b) 180°
(c) $66\frac{1}{2}^\circ$ (d) $23\frac{1}{2}^\circ$
- On 21st June, Northern Hemisphere appears:
(a) inclined towards the sun (b) away from the sun
(c) no change is there (d) none of these
- When does the Tropic of Capricorn receive direct sunrays and South Pole is inclined towards it?
(a) 21st June (b) 21st March
(c) 23rd September (d) 22nd December
- On which date, the entire world experiences equinox?
(a) 23rd January (b) 23rd June
(c) 23rd March (d) 23rd September



B. Answer the following questions.

1. Name the two major movements of the Earth.
2. What is caused by the rotation of the Earth and revolution of the Earth?
3. What is leap year?
4. What is the angle of inclination of the Earth with its orbit plane?
5. How are seasons on Earth caused?
6. What is circle of illumination?
7. Why do people in Australia celebrate Christmas in summer season?
8. Some children are forced to celebrate their birthdays once in four years. Why so?

C. Fill in the blanks.

1. On 21st March and 23rd September, _____ and _____ are equal all over the world.
2. Revolution causes cycle of _____ in the world.
3. On 21st June, the position of the Earth is called _____.
4. The direction of the Earth's rotation is from _____ to _____.
5. The line which divides the on the Earth, known as _____.

D. Distinguish between the following.

- | | |
|---|-------------------------|
| 1. Dawn and Twilight | 2. Equinox and Solstice |
| 3. Rotation and Revolution of the Earth | 4. Sunrise and Sunset |
| 5. 21st March and 23rd September | |

E. State whether the following statements are true or false.

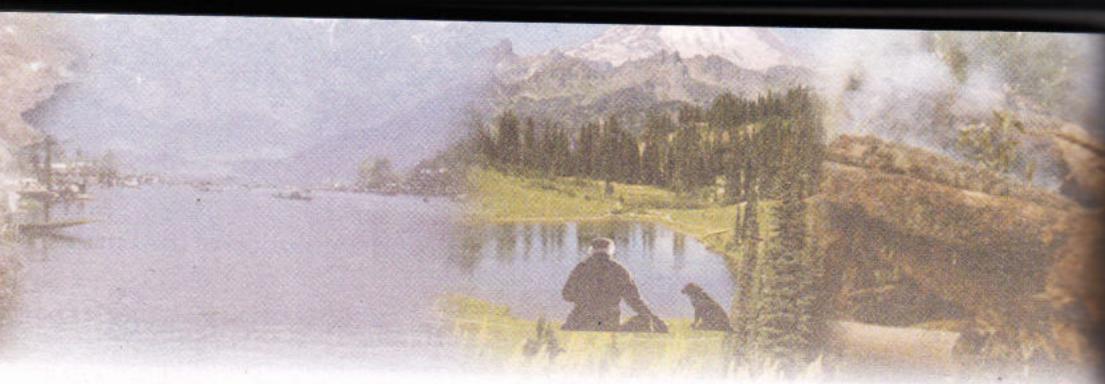
1. Norway is called the land of the midnight Sun.
2. Rotation is the annual movement of the Earth.
3. Revolution causes day and night.
4. 23rd September is equinox.
5. The early period between darkness and sunrise is called dawn.

1. Project Work

Draw well-labelled diagrams for the following in your notebook:

- (i) Cycle of Seasons (ii) Day and night showing the circle of illumination.





Realms of the Earth

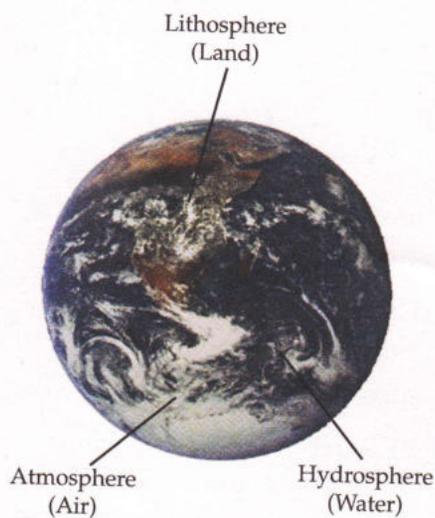


Fig. 17.1: Major Realms of the Earth

It is believed that life forms exist in our solar system only on the Earth. Though sometimes it is supposed that conditions of the planet Mars are also suitable for living. Yet, there is no evidence to prove it. Planet Earth is the home of men, animals, birds and plants. Have you ever tried to find out why?

Earth is a unique planet which supports life of plants and animals. Land, air and water provide sustenance and necessary environment for the survival of plants and animals. Together, they form natural environment.

Environment has three main components that we call realms. The major realms (domains) of the Earth are:

1. Lithosphere (land)
2. Hydrosphere (water)
3. Atmosphere (air)

The combination of three realms has created suitable environment to sustain life. All the living beings exist in a narrow zone of contact between these three realms. This narrow zone is known as **biosphere**. Therefore, biosphere – the entire region of Earth's surface, water and the air, inhabited by living beings, is recognised as the fourth domain.

Lithosphere

The solid part of the Earth visible to us and formed of solid crust or rocks and soil is **lithosphere**. It is derived from the Latin word 'Lithos' meaning rock.

Importance of Lithosphere

- Lithosphere provides a base for human activities.
- Plants grow on land, thus support forests.
- People can practise farming here.
- Movement is easy on solid land.
- Construction of high-rise buildings, roads, rails and air strips is possible.



Fig. 17.2: A man practising farming on the land



- Lithosphere has different landforms.
- Rocks of lithosphere provide us minerals for industries.
- Lithospheric surface is highly uneven. Presence of various landforms gives it varying shapes, surfaces and heights, for example, 1. Mountains and hills 2. Plateau 3. Plains.

Hydrosphere

The realm of water comprising water bodies rivers, lakes, seas, oceans, ponds, gulfs, bays, snow and ice sheets and underground water is called **hydrosphere**. It also includes water in all forms – liquid, solid (as ice and snow) and gaseous (water vapour).

- The Earth is the only planet in our solar system with water, therefore, called **blue planet**.
- This realm covers 71% of land surface.
- Sea and Ocean are the largest water bodies in which 97.3% of the total water is found. But it cannot be used for drinking, washing and irrigation due to its high salt content.
- Water from rivers, lakes and streams flow into the sea. A major part of the Earth's water is present in the form of glaciers and snow. But only about 2.7% freshwater on the Earth is available for our use.
- Four large oceans are Pacific, Atlantic, Indian and Arctic Oceans.
- Our land gets this ocean water through water cycle (Hydrological Cycle). This natural process makes water move between hydrosphere, atmosphere, lithosphere and biosphere and keeps the sufficient amount of water on the Earth.

Importance of Hydrosphere

- Oceans affect the climate on Earth..
- Oceans, rivers and deep lakes provide navigational facilities for trade.

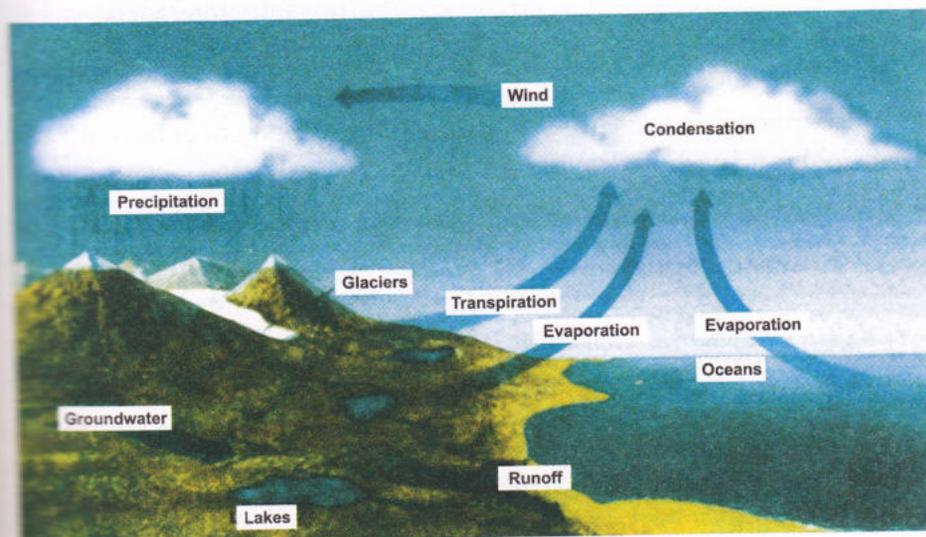


Fig. 17.5: Hydrological Cycle



Fact Bubble



Fig. 17.3: Dead Sea

Dead Sea is the saltiest sea in the world.



Fact Bubble



Fig. 17.4: Caspian Sea

Caspian Sea in Asia is the world's largest enclosed sea containing salty water.



Fact Bubble



Fig. 17.6: Wular Lake

Wular Lake in Jammu and Kashmir is the largest freshwater lake in India.





Fig. 17.7: Ocean



Fig. 17.8: Water Pollution

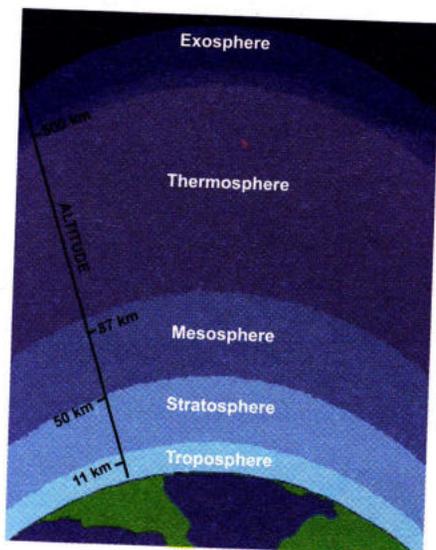


Fig. 17.9: Layers of Atmosphere



Fig. 17.9

- (c) Water bodies provide habitats to different marine/aquatic animals.
- (d) Ocean is a storehouse of energy in the form of liquid water. Ocean water evaporates on heating which causes rains on land.
- (e) Oceans and rivers have given us protein-rich food in the form of fish and seafoods.
- (f) Oceans are storehouses of dissolved salts especially kitchen salt (sodium chloride).

However, water is indispensable part of human being's life due to the following reasons:

- Water is used for drinking, washing, cooking, bathing and other domestic activities.
- Water is required for industrial processing and cooling of machines.
- Agriculture cannot be practised on a large-scale without water for irrigation.
- Underground water is used for all the above-mentioned purposes.
- Force of running and falling water is converted into hydel power.

Human beings cannot live without water. Hence, we must conserve and protect water resource from all forms of pollution caused by—
(i) discharge of sewerage, urban and domestic waste (ii) discharge of untreated industrial and chemical waste (iii) oil spills etc.

Atmosphere

The gaseous envelope around the Earth's surface is called **atmosphere**. This blanket of air is an integral aspect of the Earth.

Importance of Atmosphere

- It protects the Earth from becoming too hot during day and too cold during night.
- Space dust, meteors burn away when they enter the Earth's atmosphere.
- Atmosphere gives us life-sustaining gases – oxygen for humans and animals and carbon dioxide for plants.
- It also provides conditions for flying jets.
- All the weather phenomena – cloud formation, wind, rainfall occur in atmosphere.
- In the atmosphere, ozone layer protects the Earth's life forms from harmful ultraviolet rays of the Sun.

The atmosphere extends upto a height of approximately 1600 km. It is divided into five layers – troposphere, stratosphere, mesosphere, ionosphere and exosphere. These layers have distinct composition, temperature and other properties.

Composition of Atmosphere

Atmosphere has weight, and is a mixture of gases. It is mainly composed of nitrogen 78%, oxygen 21%, and other gases 1% like carbon dioxide, helium, argon, water vapour and others.

Oxygen is inhaled by animals, carbon dioxide by plants. Nitrogen is required for plant growth. Carbon dioxide also keeps the Earth warm by absorbing the heat given out by Earth. Maximum air is found closest to the Earth's surface.

As we go higher, the air becomes thinner and thinner. Therefore, temperature and pressure also decrease with the increasing height of atmosphere. Also, while climbing the higher mountains like Himalayas, a climber uses oxygen cylinder due to decrease in the oxygen content in the higher layer of atmosphere.

Atmosphere being gaseous layer is held to the Earth due to the force of gravity and its weight.

It exerts pressure on Earth which varies from place to place. The areas of warm temperature have low pressure and the areas of cold temperature have high pressure. Thus, the air in warm regions becomes light and rises, creating low pressure and in cold areas the air becomes heavy, creating high pressure.

This difference in pressure causes air to move which is called **wind**. Wind always moves from high pressure to low pressure.

Let us protect the atmosphere from:

- Use of harmful gases like chlorofluorocarbon (CFC) in air conditioners and refrigerators which is gradually causing holes in the atmospheric layer (ozone layer). This lets in harmful sunrays to the Earth's surface.
- Pollution by thermal power stations, industrial gases and gases released by vehicular traffic.
- Increasing carbon dioxide which is leading to **global warming** causing melting of ice caps and rising sea levels.

Biosphere

The Earth may be the only planet in universe capable of supporting life. The biosphere as we have already read in the beginning is a narrow zone of contact between land, air and water. This narrow zone contains diverse life forms – plants and animals.

There are several species of organisms that vary in size from microbes and bacteria to huge mammals found in biosphere.

Each living organism has its own set of requirements – water, temperature, humidity, soil and land for existence. Such a suitable environment for the survival of living being is called a **habitat**.

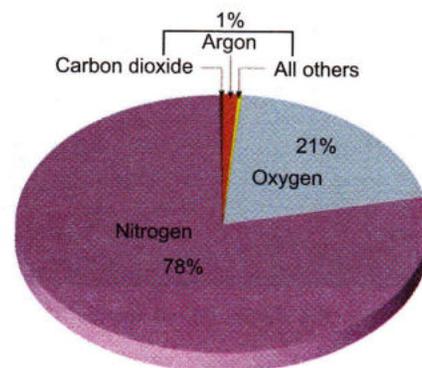


Fig. 17.11: Composition of Atmosphere



Explore!

Visit the area around your school and locate any evidence of the pollution of environment.



Fig. 17.12: Air Pollution

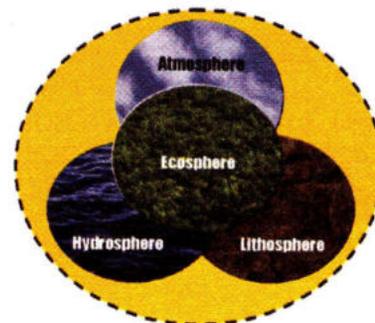


Fig. 17.13: Biosphere

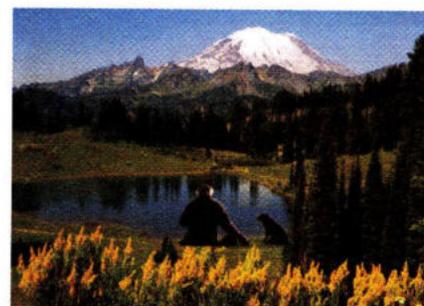


Fig. 17.14: Environment





Fig. 17.15: Felled Trees



Fig. 17.16: Earth supports life and life forms.

Humans and Environment

Flora (plants) and fauna (animals) are integral part of environment.

Environment is both:

- (a) physical or non-living *i.e.*, land, air, water.
- (b) biological or living *i.e.*, plants and animals.

These two components of environment are interrelated and interdependent. Plants and animals cannot survive without air, water and land. A number of various organisms can be supported in a habitat. For example, plant-eating animals are more in number than flesh-eating animals in any environment. If this delicate balance of interdependence is disturbed, the entire biosphere gets affected.

The number of human population and their activities has decreased the capacity of environment to support them. In the process of fulfilling his requirements, man has disturbed the balance between living and non-living things. He is responsible for the following:

- Deforestation by cutting trees and destroying forests for man's own needs, for example, in construction of houses, factories and for agriculture and transportation.
- Animal life is endangered as they are killed for pleasure, fur, skin and other uses.
- Pollution of air by industries and means of transportation.
- Hydrosphere and lithosphere are polluted due to industrial and chemical waste disposal.
- Wastes in water are killing marine life. It affects the rate of evaporation.
- Land is becoming useless.

We must save environment from being polluted as the Earth is the only planet which supports life and life forms.

We must cherish, protect and preserve the environment for future generation.



Explore!

Study an area in your town/city and find out how the human activity is polluting the environment. Suggest measures to avoid it.



Let Us Recall

Realms of the Earth: These are the domains of the Earth.

Atmosphere: It is the thin layer of gases surrounding the Earth.

Biosphere: It is the part of the Earth inhabited by living organisms – plants and animals.

Habitat: It is the natural home of a living being.

Flora and fauna: Plants and animals.





EXERCISES

A. Choose the correct answer.

- Which realm of the Earth consists of solid crust or rocks?
(a) biosphere (b) hydrosphere
(c) lithosphere (d) atmosphere
- Which of the surface is highly uneven?
(a) biosphere (b) hydrosphere
(c) lithosphere (d) atmosphere
- Which of the following gases is used in refrigerator?
(a) CO₂ (b) CFC
(c) H₂O (d) None of these
- Increase of which gas leads to global warming?
(a) carbon dioxide (b) nitrogen
(c) hydrogen (d) oxygen
- Search out the main components of environment:
(a) temperature and pressure winds (b) climatic conditions
(c) plants and animals (d) relief features
- Which one of these is the gaseous envelope around the Earth?
(a) biosphere (b) atmosphere
(c) lithosphere (d) hydrosphere
- Which planet is referred as the 'blue planet'?
(a) Venus (b) Earth
(c) Mars (d) Jupiter
- The narrow zone of contact between the three realms:
(a) biosphere (b) atmosphere
(c) lithosphere (d) hydrosphere
- Which of the following is a gaseous form of water?
(a) ice (b) liquid water
(c) water vapour (d) snow
- What is the percentage of freshwater available on the Earth for human use?
(a) 3.7% (b) 5.2%
(c) 2.7% (d) 1.5%

B. Answer the following questions.

- Name the three major domains/spheres of the Earth.
- Which sphere is referred to as fourth domain? How is it formed?
- How is atmosphere held to the Earth's surface?
- Enlist two major gases present in atmosphere.
- Which constituent of atmosphere protects the Earth from harmful sunrays?



6. Give a point of distinction between physical environment and biological environment.
7. Name the gas causing holes in ozone layers. How is this gas used by man?
8. What percentage of freshwater can be used by man?
9. Why is Earth called blue planet?

C. Give reasons/points for the following.

1. Any two causes of water pollution.
2. Any two causes of air pollution.
3. Importance of water for mankind.
4. The mountaineers use oxygen cylinders while climbing the mountain like Himalayas.
5. Atmospheric gases move from one place to another.
6. Air is not fit for breathing nowadays.
7. Ice caps are melting.

D. Fill in the blanks.

1. _____ and _____ components of environment are interdependent.
2. Hydrosphere covers _____ percent of land surface.
3. Water is present in _____, _____ and _____ forms.
4. Winds always move from _____ pressure to _____ pressure.
5. We must save _____ from being polluted as _____ is the only planet which supports life and life forms.

E. Distinguish between the following.

1. Atmosphere and hydrosphere
2. Lithosphere and biosphere

F. State whether the following statements are true or false.

1. Mars is a planet which supports life.
2. Human beings can live without water.
3. Lithosphere is a gaseous envelope around the Earth's surface.
4. Carbon dioxide keeps the Earth warm.
5. Carbon dioxide is not important for plants.
6. Habitat is suitable natural environment for living beings.

G. Think and Answer.

How did human beings disturbed the delicate balance between living and non-living environment?

1. Project Work

- (a) In what ways would you like to save water and air from pollution. Prepare a list of activities which can save earth from pollution.
- (b) Suggest different ways to prevent wastage of water by us.





Continents, Oceans and Associated Landforms

The surface of the Earth is not the same everywhere. There are differences in elevation and slope of various landforms, such as mountains, plateaus and plains, both at global and local levels. It is called relief in particular area. At global level, relief is of two types – (1) Continents (2) Oceans.

There are seven continents and four oceans.

Continents

Continents are large blocks of landmasses surrounded by oceanic waters. They account for 29% of land surface. Their average thickness varies between 60 km to 100 km. They are composed of solid rocks of different chemical composition. Continents are floating on mantle which is partially in molten state. Let us have a look at the seven continents given in the table below:

Name of Continents	Area (in sq km approx.)	Area occupied of the world (in percentage approx.)
1. Asia	4,48,87,537	30.0
2. Africa	3,02,63,037	20.2
3. North America	2,42,38,486	16.2
4. South America	1,78,22,497	11.9
5. Antarctica	1,40,00,000	9.4
6. Europe	98,59,691	6.0
7. Australia	85,14,986	5.7

Table 18.1



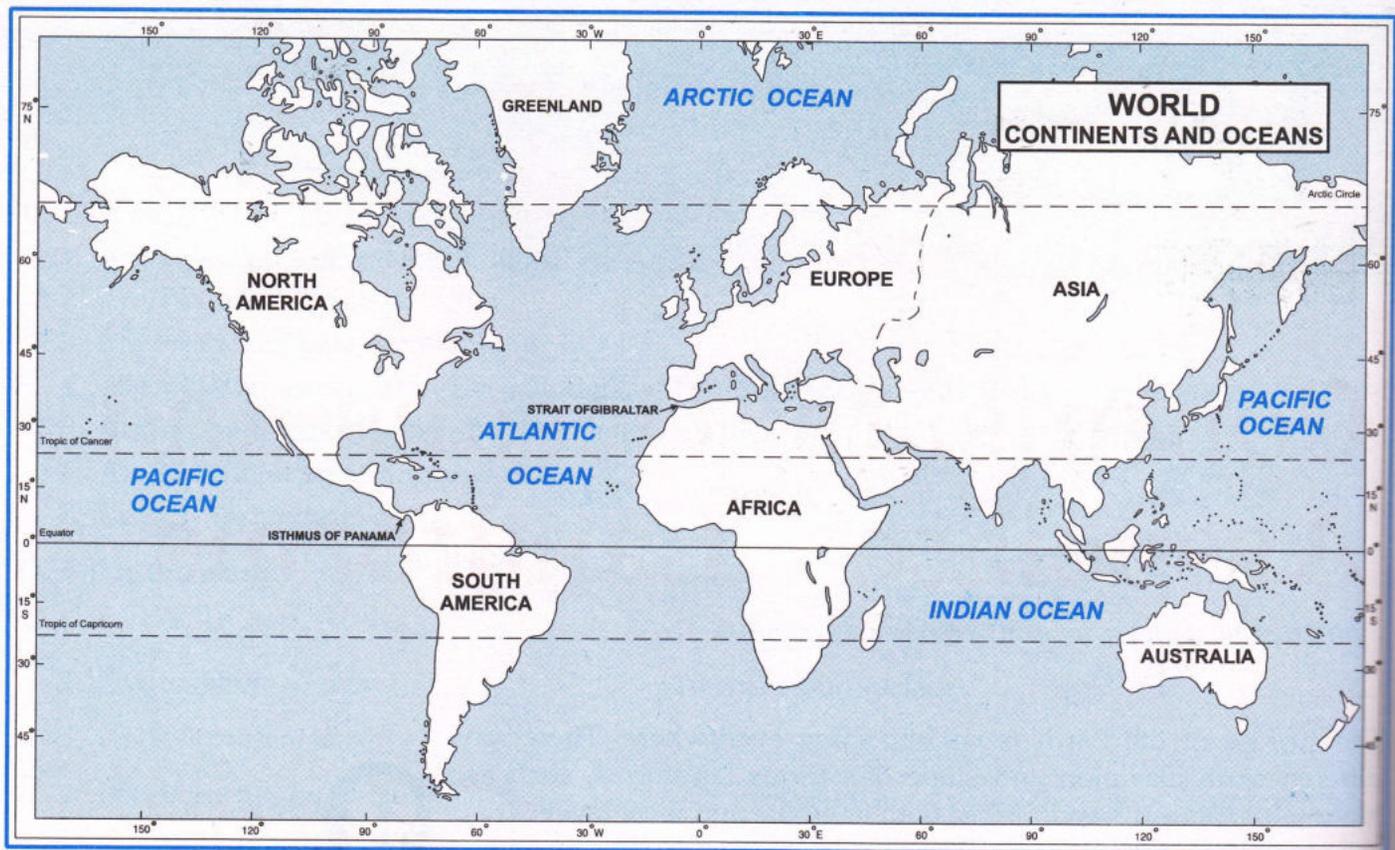
Fact Bubble



Fig. 18.1: Atlas Mountains

After Asia, Africa is the second largest continent. Its highest feature includes the Atlas Mountains in the north-west.





Map 18.1: World - Continents and Oceans

1. Asia

- Asia is the world's largest continent.
- It covers approximately 30% of the Earth's surface.
- Some of the coldest, highest and lowest places are found in Asia: the frozen wastes of Northern Siberia, Mt. Everest in Himalayas and the Dead Sea respectively.
- Asia is located in the Eastern Hemisphere.
- Tropic of Cancer and Arctic Circle pass through this continent.
- Asia has Arctic Ocean to the north, Pacific Ocean to the east and Indian Ocean to its south.
- It is joined to Europe. Together, they are called Eurasia. However, Ural Mountains, Black Sea and Caspian Sea separate the two continents.
- A narrow strip of land called Isthmus of Suez connects Asia and Africa.
- Asia has the deepest lake (Lake Baikal), the largest inland lake (Caspian Sea) and the Himalayas, the highest mountain range of the world.
- Asia has two most populous countries – China and India.



Fact Bubble



Fig. 18.2: Grand Canyon

A wonderful landform on the North American continent is the famous Grand Canyon in the state of Arizona (USA).



2. Africa

- This second largest continent is also called the **dark continent** as it was colonised in the early part of 20th century and a few decades back only economic development started.
- Its landscape includes the largest desert in Northern part – Sahara, the longest river – Nile, dense forests in Congo Basin, the famous African Rift Valley, rich animal life, gold and diamond deposits in South Africa.
- Africa is surrounded by water on all sides – Mediterranean Sea in north separates it from Europe, Indian Ocean in east, South Atlantic Ocean in west.
- It is the only continent through which the Tropic of Cancer, the Equator, the Tropic of Capricorn pass.
- It is located both in Northern Hemisphere and Southern Hemisphere.

3. North America

- It is the third largest continent linked with South America by a very narrow strip of land called Isthmus of Panama.
- North America stretches from Greenland to tropical Caribbean Sea.
- It lies totally in the Northern Hemisphere and Western Hemisphere.
- It extends to the Arctic Ocean in north, Pacific Ocean in west, Atlantic Ocean in east and in south just above the equator.
- This continent was discovered in 16th century by Christopher Columbus. However, the first people came from Asia around 20,000 years ago.
- North America includes highly developed countries of USA and Canada.

4. South America

- It is the fourth largest continent lying mostly in Southern Hemisphere whereby the Equator and the Tropic of Cancer pass.
- Brazil is the largest country followed by Argentina. Angel Falls, the world's highest waterfall is situated in Guyana.
- South America is surrounded by Caribbean Sea in north, Atlantic Ocean in east and the Pacific Ocean in west.
- South America is known for largest river 'Amazon' and longest mountain range 'Andes', dense rainforests, the famous python Anaconda, Brazilian coffee and carnival.

5. Antarctica

- It is the fifth largest continent, located totally in Southern Hemisphere around the South Pole and surrounded by Antarctic Ocean.



Fact Bubble



Fig. 18.3: Isthmus

The Isthmus of Suez is a narrow strip of land that links Asia and Africa and separates Mediterranean Sea and Red Sea. Suez Canal is situated on the Isthmus of Suez.



Fig. 18.4: Sahara Desert



Fig. 18.5: Panama Canal



Fig. 18.6: Angel Falls



Fact Bubble

The temperate grasslands found in South America is called Pampas.





Fig. 18.7: Antarctica



Fig. 18.8: Vatican City in Europe



Fact Bubble

Vatican City is the smallest independent country situated in Rome, Italy.

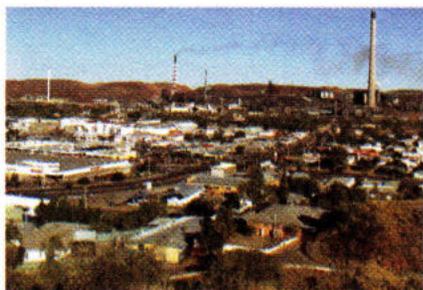


Fig. 18.9: Mount Isa



Explore!

Maitri is India's second permanent research station in Antarctica. Find out what kind of research is conducted at the station.

- It is the **frozen continent** without any human population and very few animals. The winter temperature is around minus 80°C.
- Antarctica contains 90% of world's ice and snow.
- It is the most bleak and barren part of the world surrounded by the stormiest seas.
- Many countries have established their research stations here. The Indian Research Stations are named Dakshin Gangotri and Maitri.

6. Europe

- The centre of Industrial Revolution having some of the most developed countries, Europe is the sixth largest continent in the world, roughly 4½ times larger than India.
- It is located in Northern Hemisphere and the Arctic Circle passes through it.
- It is separated from Asia by Ural Mountains, Caspian Sea and Black Sea.
- It is bound by the Arctic Ocean in north, Atlantic Ocean in west and Mediterranean sea in south. So, it is also called the Peninsula of Asia.
- Europe has the most indented coastline which provides numerous ports. No doubt, Europe has some of the finest ports and harbours in the world.

7. Australia

The term Australia is derived from Latin word *Austral* which means southern.

- It is the smallest continent ranking seventh located totally in the Southern Hemisphere.
- It was discovered in the 18th century.
- It is the flattest continent with lowest rainfall and maximum population of sheep.
- Aborigines were the first original inhabitants here.
- It is surrounded by the Pacific Ocean in east, the Indian Ocean in west and the Antarctic Ocean in south.
- A famous tourist spot 'Great Barrier Reef' is situated in Australia that runs 2000 km under the shallow sea water.
- Mount Isa in Australia is the world's largest city. It has the total area of 41,225 square km.

Oceans

Oceans are the largest water bodies accounting for almost 70% of the Earth's area and 97% of the earth's water.

- Ocean water is salty. Hence, it needs to be purified before putting it to any use by humans.
- There are five major oceans in the world—Pacific Ocean, Atlantic Ocean, Indian Ocean, Arctic Ocean and Antarctic Ocean.
- Southern Hemisphere has more water than land, therefore, termed as **water hemisphere**.



peaks, trenches and so on.

Some submarine, mountain, peaks and volcanic cones, rise above the level of ocean. They form **islands**. For example, West Indies in Caribbean Sea, Andaman and Nicobar Islands in Indian Ocean, Hawaii Islands in Pacific Ocean are volcanic peaks. Mid-Atlantic ridge is the longest mountain chain located on the bed of Atlantic Ocean.

- Oceanic beds are rich in volcanic cones and peaks, especially the Pacific Ocean.
- A long, narrow and deep parts in the ocean floor is ocean trench. For example, Mariana Trench near Philippines is the deepest part in Pacific Ocean.
- Along the coasts lies the shallow sea plains called **continental shelf**. They are rich in aquatic life. Continental shelf and continental steep separate the coast from the deep ocean floor.
- Deep sea or ocean plains which are vast and extensive are referred to as **abyssal plains**.

Major Landforms

Surface of Earth on which man lives is highly uneven. Over the continents numerous landforms with varying height can be seen. According to their height, landforms are classified as:

1. Mountains 2. Plateaus 3. Plains.

The landforms change with time. These relief features are the result of processes taking place inside and outside the Earth's surface. Thus, we classify these processes as:

- (a) **Internal processes** lead to rising and sinking of land surfaces. The processes include earthquakes, volcanic eruptions and earth movements.
- (b) **External processes** involve the continuous process of wearing down and rebuilding of Earth's surface.

Wearing away of earth's surface is called **erosion** which lowers down the higher surfaces, by rivers, winds and moving ice.

The Earth's surface is rebuilt by laying down the rock materials by the process called **deposition**.

1. Mountains

- Mountains are the highest elevations with sharp peaks, steep slopes, broad bases and uneven rocky surfaces.
- Mountains may extend for long distances and called ranges or chains, e.g. the Himalayas (India), the Alps (Europe), the Rockies (North America), the Andes (South America). Since these mountains are prone to frequent shakings, therefore, called young fold mountains.

When such mountains are lowered by forces of nature – climate, wind, rivers and ice, they attain rounded peaks and called old fold



Fig. 18.10: Pacific Ocean



Fig. 18.11: Atlantic Ocean



Fig. 18.12: Indian Ocean



Fig. 18.13: Arctic Ocean



Fig. 18.14: Antarctic Ocean





Fact Bubble

Mauna Kea in Hawaii is a volcanic peak. Its height is 10,205 metres. Higher than the Mount Everest!



Fig. 18.15: Mariana Trench



Fig. 18.16: Aravali Hills



Fig. 18.17: Fold Mountains

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When such mountains are lowered by forces of nature – climate, wind, rivers and ice, they attain rounded peaks and called **old fold mountains**, e.g. Appalachians in North America, Aravalis in India, Urals in Russia.



Block mountain is another type of mountain. When large areas develop cracks, along such cracks the Earth surface rises or sinks or both. The uplifted block is called **horst** and lowered block is termed as **graben**. The uplifted area between two subsided blocks is called **block mountains**, e.g. Vosges mountains in Europe.

Volcanic mountains are formed by deposition and solidification of lava around the opening through which lava comes out, e.g. Mt. Fujiyama in Japan, Mt. Kilimanjaro in Tanzania, Mt. Egmont in New Zealand.

Mountains are undoubtedly uneven surfaces. They have proved their usefulness in many ways:

- Melting of snow from the mountains is the source of freshwater rivers, e.g. Ganga, Yamuna, Sutluj, Indus, etc.
- Forests on the mountain slopes are the source of medicinal herbs, softwood for paper, fuelwood, resins and habitat for animals.
- River valleys in mountains provide suitable sites for producing hydel power.
- Tea gardens and fruit orchards are developed on mountain slopes.
- Mountains are natural barriers and act as climatic divide. The Himalayas stops the cold winds from China to enter India and prevents the moist winds from going into China.
- Mountains are storehouses of minerals and building stones.
- The scenic beauty, fruit orchards and cool climate of mountains have always attracted tourists and earned extra revenue.
- Several adventurous sports like hand-gliding, river-rafting, skiing, etc., are also encouraged because of the presence of mountains.

2. Plateau

Plateau is a tableland, i.e., a flat extensive elevated surface with steep sides. The height of plateau varies from a few hundred metres to several thousand metres. Plateaus can be young and old. West Australian Plateau and East African Plateau are the examples of very old plateau. A plateau between two mountains is known as intermountain plateau. The highest plateau is Tibet Plateau. It is 4000-6000 m above the sea level. Deccan Plateau of South India is volcanic in origin.

Plateaus are useful in many ways:

- They are storehouse of metallic minerals and precious stones. Myanmar is famous for rubies, South Africa for gold and diamond deposits, Chhotanagpur Plateau of India for iron ore and manganese deposits.
- Waterfalls in plateau region not only provide scenic beauty but also sites for producing hydroelectricity.
- Plateaus of volcanic origin have fertile soil, favourable for growing crops.



Fig. 18.18: Block Mountains

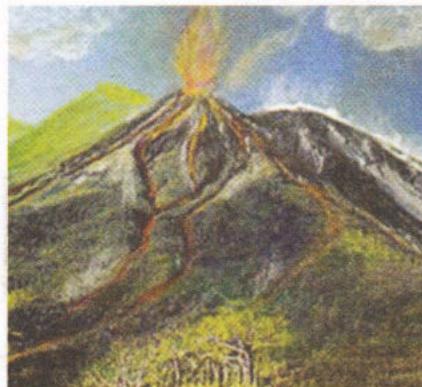


Fig. 18.19: Volcanic Mountains



Fig. 18.20: Tea Gardens



Fig. 18.21: Tibet Plateau





Fig. 18.22 Plains

3. Plains

Plains are extensive flat surfaces. Their maximum height is 200-300 m above the sea level. Their slope is gentle. Plains are mostly formed due to deposition of fine rock materials (silt) by the rivers which they transport during their long journey from mountains. Loess plains are formed by deposition of finer material transported and deposited by winds. Plains are very important for mankind.

- River plains have been the cradles of civilisations, *e.g.*, Indus Valley in India and Pakistan, Egyptian civilisation in NE Africa, Hwang Ho and Yangtze Valleys in China; due to fertile soil for farming and water for irrigation.
- Plains inhabit the maximum population, *e.g.* the Great Plains in India.
- Construction of road-rail network and buildings is easy.
- Plains favour agriculture, industrial and other commercial activities on a large-scale.



Fig. 18.23: Plains favour agriculture

Conclusion

A variety of landforms exist in the world. They keep transforming with time. Mountains, plateaus and plains support different activities as the shape of landforms differ. But they are complementary to one another. Rivers from mountains provide plains with water and fertile soil. Mountains and plateaus are storehouses of minerals and building stone. Plains are called food bowls due to food production.

We must conserve these landforms and associated bounties of nature for future generations.



Let Us Recall

Pacific Ocean: It is the deepest and largest ocean.

Arctic: It is the smallest ocean.

Mountains: They are higher elevations. They are of three types – Fold mountains, Block mountains and Volcanic mountains.

Plateaus: They are flat, elevated surfaces with steep sides.

Silt: It is a fine sediment deposited by a river to form plains.

Submarine: It is referred to as the ocean floor. This relief is uneven.

Isthmus: It is narrow strip of land joining two large landmasses.

Abyssal Plains: It refers to a deep sea or the ocean plains which are vast and extensive.

Loess Plains: They are formed by deposition of finer material transported and deposited by winds.





EXERCISES

A. Choose the correct answer.

- Name two countries which are the most populous in the world.
(a) China and Sri Lanka (b) China and Pakistan
(c) China and India (d) New Zealand and Bangladesh
- On which of the following continents, the Tropic of Cancer, Tropic of Capricorn and Equator pass?
(a) Australia (b) Asia
(c) Africa (d) Antarctica
- North America is located in which hemispheres?
(a) Northern and Eastern Hemispheres
(b) Northern and Western Hemispheres
(c) Northern and Southern Hemispheres
(d) None of these
- Which of the following continents is known for its longest mountain range and largest river?
(a) North America (b) South America
(c) Asia (d) Africa
- Which of the following is the storehouse of minerals?
(a) mountains (b) plateaus
(c) both (a) and (b) (d) none of these
- Great Barrier Reef is situated in:
(a) Asia (b) Africa
(c) South America (d) Australia
- Which of the following is the largest water body?
(a) seas (b) oceans
(c) lakes (d) rivers
- The average thickness of continents varies between:
(a) 50 km to 90 km (b) 60 km to 100 km
(c) 60 km to 90 km (d) 40 km to 100 km
- Which of the following oceans has the longest coastline?
(a) Indian Ocean (b) Antarctic Ocean
(c) Pacific Ocean (d) Arctic Ocean
- Which of the following ocean is named after a country?
(a) Antarctic Ocean (b) Arctic Ocean
(c) Pacific Ocean (d) Indian Ocean
- Mt. Fujiyama is situated in which country?
(a) India (b) China
(c) Pakistan (d) Japan
- Young fold mountains refer to:
(a) Andes (b) Appalachians
(c) Urals (d) Aravallis



B. Answer the following questions.

1. Name the smallest, largest and deepest oceans.
2. List the largest and the smallest continents in the world.
3. What is an isthmus? Give two examples.
4. What is deposition? Give an example.
5. Where is the highest mountain of world located? Name the peak also.
6. Which two continents are the most developed? Name at least two countries from each continent.

C. Give reasons for the following questions.

1. How are plains formed? Mention its characteristics and elevation.
2. Why are some mountains like the Alps, the Rockies and the Himalayas termed the young mountains?
3. Why have the river valleys been the centres of civilisations? Give examples.
4. How is it that maximum population of world lives in the plains? Give reasons.
5. Why do the landforms change with the passage of time? Explain two processes in this context.

D. Give one word for the following.

1. The highest plateau in the world _____
2. Large blocks of landmasses _____
3. The busiest oceanic trade routes are located here _____
4. Total number of continents _____
5. Ocean floor is also called _____

E. Distinguish between the following.

1. Mountains and plateaus
2. Erosion and deposition
3. Internal processes and external processes
4. Young fold mountains and old fold mountains
5. Africa and Antarctic continents

F. State whether the following statements are true or false.

1. Relief is of two types at global level.
2. Europe is the smallest continent.
3. Mauna Kea is higher than the Mount Everest.
4. Indian Ocean is surrounded by North America.
5. The Antarctic Ocean is also called Northern Ocean.

1. Individual Project

What kind of landforms do you see in your state? Make models of all of them and write their chief characteristics.



19



India: Location, Size and Relief

India, our motherland, is a land of prosperity, diverse cultures and secularism. It is a home to largest democracy. The second most populous nation with over one billion people, India accounts for 17% of the world's population after China. Different people from diverse lands brought a variety of art, architecture, culture, languages and customs to India.

Location and Size

The area of India is 3.28 million sq km accounting for about 2.4% of the total world area. In terms of size, India is the seventh largest country.

Its land boundary is around 15,200 km long and the coastline is approximately 7500 km long. Total geographic land area is 32,87,263 sq km. India is bound by Arabian Sea in west, Bay of Bengal in east and the vast Indian Ocean in south. India is located mid-way between West Asia and East Asia. It has the second most cultivable land after USA.

India measures about 3,214 km from north to south and about 2,933 km from east to west.

No.	Country	Area (in sq km approx.)
1.	Russia	17,075,400
2.	Canada	99,84,670
3.	USA	96,29,091
4.	China	95,96,960
5.	Brazil	85,11,965
6.	Australia	76,86,850
7.	India	32,87,263

Table 19.1



Fig. 19.1: India



Fact Bubble



Fig. 19.2: Arabian Sea

Two island groups in Arabian Sea and Bay of Bengal form part of Indian landmasses.





Fig. 19.3: Bay of Bengal

Political Division

India has 29 states and seven union territories with New Delhi as its capital. The states have been formed basically on the basis of languages. Rajasthan is the largest state while Goa is the smallest state in terms of size. Our island territories are Andaman and Nicobar islands in Bay of Bengal and Lakshadweep Islands in Arabian Sea.

STATES/UNION TERRITORIES

No.	State	Capital
1.	Andhra Pradesh	Hyderabad
2.	Arunachal Pradesh	Itanagar
3.	Assam	Dispur
4.	Bihar	Patna
5.	Chhattisgarh	Raipur
6.	Goa	Panaji
7.	Gujarat	Gandhinagar
8.	Haryana	Chandigarh
9.	Himachal Pradesh	Shimla
10.	Jammu and Kashmir	Srinagar/Jammu
11.	Jharkhand	Ranchi
12.	Karnataka	Bengaluru
13.	Kerala	Thiruvananthapuram
14.	Madhya Pradesh	Bhopal
15.	Maharashtra	Mumbai
16.	Manipur	Imphal
17.	Meghalaya	Shillong
18.	Mizoram	Aizawl
19.	Nagaland	Kohima
20.	Odisha	Bhubaneswar
21.	Punjab	Chandigarh
22.	Rajasthan	Jaipur
23.	Sikkim	Gangtok
24.	Tamil Nadu	Chennai
25.	Tripura	Agartala
26.	Uttar Pradesh	Lucknow
27.	Uttarakhand	Dehradun
28.	West Bengal	Kolkata
29.	Telengana	Hyderabad



Fact Bubble

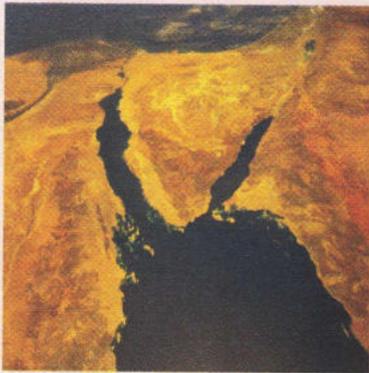


Fig. 19.4: A Peninsula

The landmass enclosed by water bodies on three sides is called peninsula. The shape of whole landmass is basically triangular.



Explore!

Which Indian states are known as the 'seven sisters'? Explore about them.

Table 19.2

No.	Union Territories	Capital
1.	Delhi	Delhi (NCT)
2.	Andaman and Nicobar Islands	Port Blair
3.	Chandigarh	Chandigarh
4.	Dadra and Nagar Haveli	Silvassa
5.	Daman and Diu	Daman
6.	Lakshadweep	Kavaratti
7.	Puducherry (Pondicherry)	Puducherry

Table 19.3



The latitudinal extent is 8°4' N to 37°6' N. Tropic of Cancer (23°30') passes through the centre of India dividing into two climatic zones – tropical zone in south and warm temperate zone in north.

The longitudinal extent is between 68°7' E to 97°25' E. The longitude of 82½°E passes midway through India, near Allahabad and helps in fixing uniform time for the country. Hence, it is rightly called the **Standard Meridian of India**.

The southernmost point of Indian mainland is Kanniyakumari. However, the Southernmost point of Indian Union is Indira Point located in Nicobar Island. Indira Point got partially submerged in sea water due to tsunami in December 2004.

Location of India at the head of Indian Ocean is important for trade routes. India has the longest coastline in Indian Ocean, the only ocean to be named after a country.

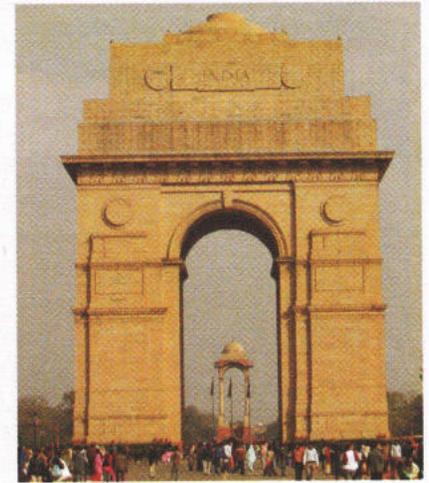
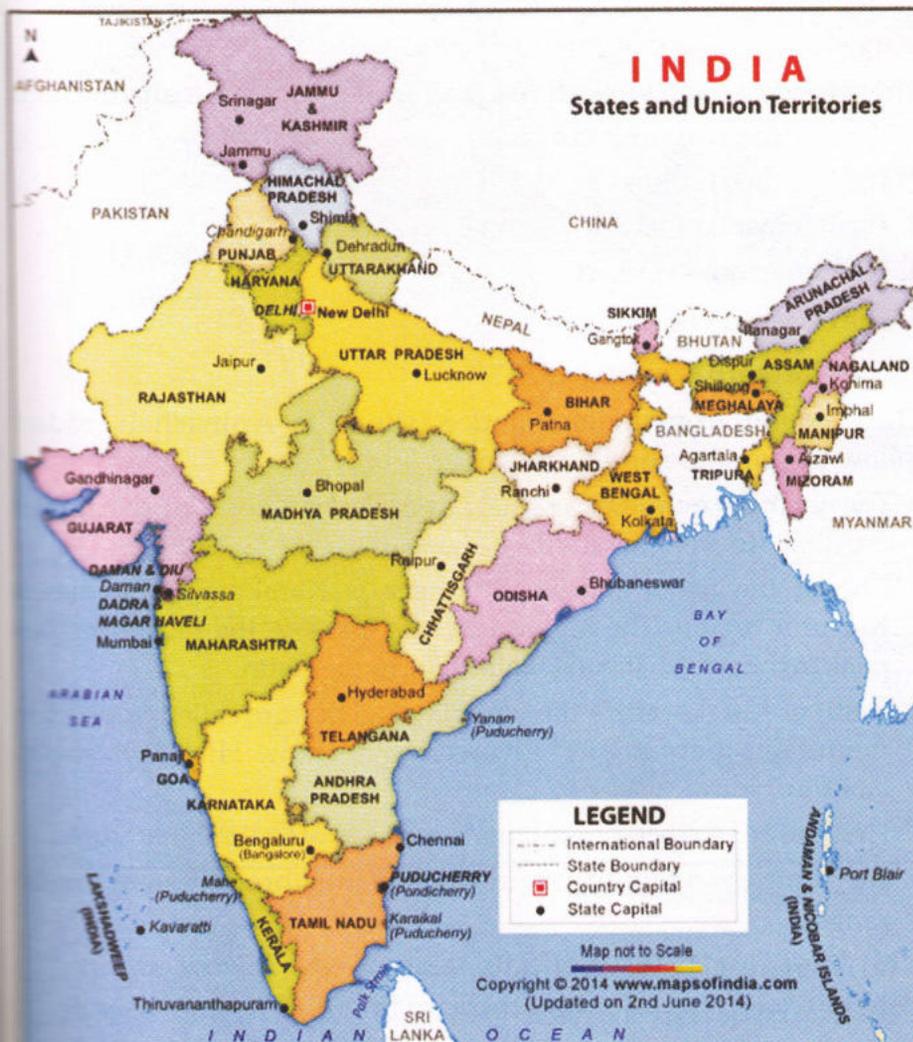


Fig. 19.5: Delhi: National Capital Territory



Map 19.1: Political Map of India

Our neighbouring countries share land boundaries with India.



Fact Bubble

Indian Standard Time (IST) is half an hour behind of Bangladesh's Standard Time and half an hour ahead of Pakistan's Standard Time. Suppose, if it is 7:00 am in India, it will be 7:30 am in Bangladesh and 6:30 am in Pakistan.

Latitude and Longitude of four metropolitan cities of India are given below:

Places	Latitude	Longitude
1. Delhi	28°, 40' N	77°, 12' E
2. Mumbai	18°, 58' N	73°, 51' E
3. Kolkata	22°, 34' N	88°, 22' E
4. Chennai	13°, 06' N	80°, 17' E



Explore!

Is India the only subcontinent in the world? Take the help of an encyclopaedia and the Internet to find out more about the subcontinents.



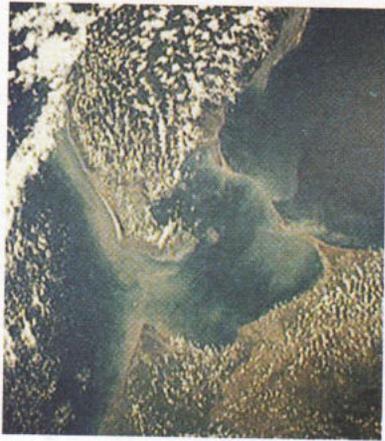


Fig. 19.6: Palk Strait



Fig. 19.7: Pamir Knot
(Roof of the World)



Fig. 19.8: Himalayas

Neighbouring Countries

Total land neighbouring countries are seven, *i.e.* Pakistan, Afghanistan, China, Nepal, Bhutan, Bangladesh and Myanmar.

- Our neighbours are Pakistan and Afghanistan in the north-west. India-Pakistan border is 3,310 km long whereas India-Afghanistan border is only 80 km long.
- Bangladesh and Myanmar (Burma) in the east. India's international boundary with Bangladesh is 4,096 km long and with Myanmar is 1,458 km long.
- Nepal and Bhutan in the north. Nepal and Himalayan range separate India from Tibet. The line between India-China border is called MacMohan Boundary Line. India's border with Nepal spans 1,752 kms, with Bhutan 587 km and with China 3,917 kms.
- In the south, on the eastern side, the Gulf of Mannar and a narrow channel of water called Palk Strait separate India from Sri Lanka.

Physiographic Divisions

The physical features of India can be grouped into five main divisions:

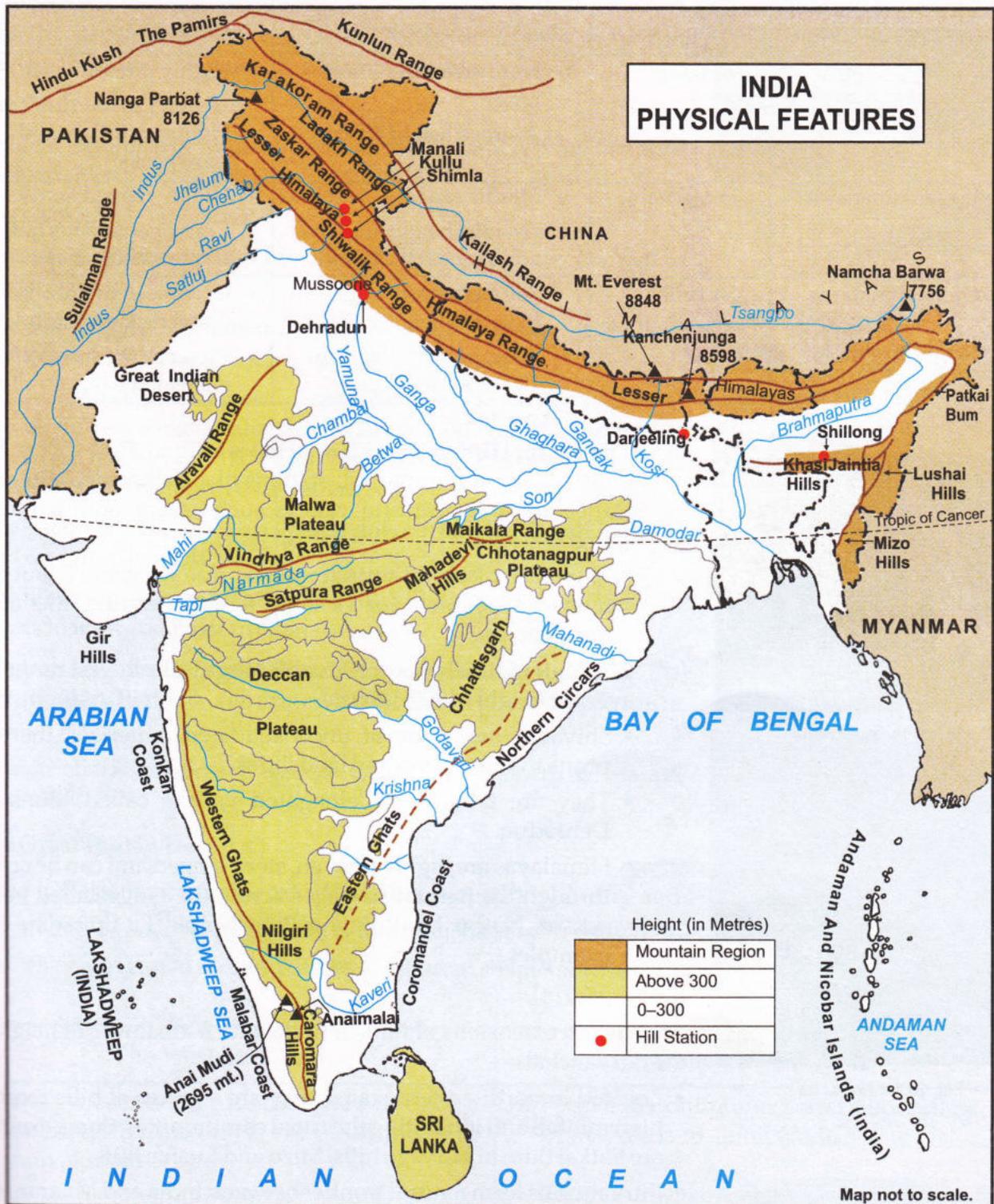
1. The Northern Mountains
2. The Northern Plains
3. The Peninsular Plateau
4. The Great Indian Desert
5. The Coastal Plains

1. The Northern Mountains

They extend from Jammu and Kashmir to Arunachal Pradesh following the entire northern frontier:

- The northern mountains radiate from Pamir Knot. Due to height, it is called 'Roof of the World'.
- One of the major mountain ranges is Karakoram that lies in Kashmir region. The highest peak is Mt. K-2, the second highest peak in the world. It is also called Godwin Austin.
- South of Karakoram is the Himalayas. They are called young fold mountains perpetually covered with snow. Himalaya means 'abode of snow'.
- They are arc-shaped mountains composed of sedimentary rocks.
- The Himalayan Mountains are divided into three different parallel ranges:
 - (a) The Great Himalayas
 - (b) The Lesser Himalayas
 - (c) The Outer Himalayas
- (a) **The Great Himalayas or Himadri** are the loftiest and most rugged range. Their average height is 6,000 m above the sea level and consists of some of the highest peaks, above 8000 m.





Map 19.2: A Physical Map of India

in the world. Mt. Everest (8,850 m) lies in Nepal. Mt. Kanchenjunga (8,598 m) in Sikkim is the highest peak in India. Some of the other world's highest peaks above 8000 m are here—Mt. Makalu (8481 m) Mt. Dhaulagiri (8172 m), Mt. Cho Oyu (8153 m), Mt. Annapura (8078 m), all lie in Nepal and Nanga Parbat (8126 m) lies in India.



Fig. 19.9: Mt. Kanchenjunga



Himalayan Ranges	Term Used	Location & Altitude	Characteristics
1. The Great Himalayas	Himadri	<ul style="list-style-type: none"> Northernmost loftiest range Average height 6000 m 	<ul style="list-style-type: none"> Highly uneven relief Permanently covered snowpeaks
2. The Lesser Himalayas	Himachal	<ul style="list-style-type: none"> Middle range Average height approximately 4000 m 	<ul style="list-style-type: none"> Highly rugged landscape Consist of famous hill stations and valleys
3. The Outer Himalayas	Shivaliks	<ul style="list-style-type: none"> Southernmost range lowest in height Average height approx. 1200-1500 m 	<ul style="list-style-type: none"> Composed of unconsolidated rock materials Presence of 'duns' i.e. elongated natural valleys

Table 19.4



Fig. 19.10: Mussoorie



Fig. 19.11: Nathu La



Fig. 19.12: Naga hills

(b) **The Lesser Himalayas or Himachal** is around 3700-4500 m high. They consist of popular hill stations like Dalhousie, Mussoorie, Darjeeling and beautiful valleys such as Srinagar, Kullu and Kangra.

- These are places of tourist interest due to scenic beauty and favourable climate for growing temperate fruits like apples and peaches.

(c) **The Outer Himalayas or Shivalik range** is the lowest range with average height of 900-1200 m.

- Shivaliks are made of unconsolidated materials, therefore, prone to soil erosion and landslides.
- They are famous for elongated valleys called 'duns', e.g. Dehradun.
- Himalayas are highly uneven, steep sloped and can be crossed through the natural passages across the range called natural passes. Nathu La, Rohtang Pass, Shipki La are some of its examples.

Purvanchals

The eastern extensions of hills in India which are lower in height are the Purvanchals.

- Located in north-eastern states, they are a group of hills receiving high rainfall and inhabiting the tribal communities. Some examples are Patkai Bum hills, Naga hills, Mizo and Lushai hills.
- Purvanchals form natural frontier between India and Myanmar.

2. The Northern Plains

The Northern Plains are the home of millions of people and support agriculture. These are extensive low-lying flat areas, with low slope formed by constant deposition of finer rock materials (silt) by Indus, Ganga and Brahmaputra river systems. All of these rivers form their own drainage basins. Due to fertile soil, moderate climate, flat nature of land, presence of perennial rivers for irrigation, these plains have become the food bowl of India. They are favourable for food crops production – wheat, rice, millets and pulses.



Brahmaputra and Ganga rivers form the largest delta in the world shared by India and Bangladesh. It is called Sunderbans.

3. The Peninsular Plateau

The oldest landform of India which is a vast, flat and elevated surface with steep sides.

- It is also called 'Tableland'.
- It consists of hard rocks of igneous and metamorphic rocks rich in mineral resources.
- The flat surface of plateau is broken by the presence of shallow river valleys.
- The plateau slopes eastward, hence, river flows into Bay of Bengal mostly. For example, Mahanadi, Krishna, Godavari, Kaveri rivers. Only two rivers, Narmada and Tapi, flow in westward direction to empty their waters in the Arabian Sea.
- The shape of plateaus is an upside down triangle – broad in north and tapering in south.
- The boundaries are marked by Aravali hills in north-west, Western Ghats in west and Eastern Ghats in east.
- Central Highlands and Deccan Plateau are two parts of the Peninsular Plateau separated from each other by Satpura hills.

The main characteristics of Eastern Ghats and Western Ghats are stated below:

4. The Great Indian Desert

Located in Rajasthan, it is also called the **Thar** desert. It is hot, dry and sandy stretch of land which supports thorn bushes and mostly date palms. They are known for sand dunes of different shapes and sizes.



Fig. 19.13: Ganga River

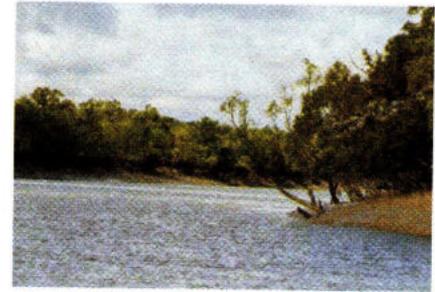


Fig. 19.14: Sunderbans – the largest delta in the world

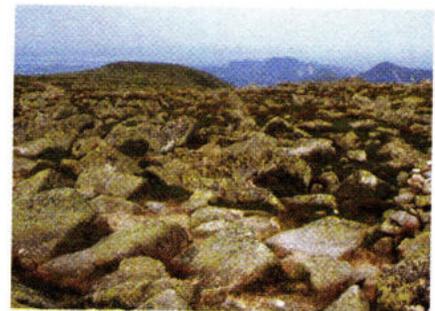


Fig. 19.15: Tableland

The Western Ghats	The Eastern Ghats
<ul style="list-style-type: none"> • Form western boundary of Deccan Plateau continuously from Gujarat to Kanniyakumari. • They are higher in altitude. • Anai Mudi (2695 m) is the highest peak in south India. • They are the source of rivers longer in length, e.g. Godavari, Krishna, Kaveri. • Western Ghats are known as Sahyadris in Northern part; Nilgiri, Anna Malai and Cardamom hills in southern part. 	<ul style="list-style-type: none"> • Form a discontinuous eastern boundary from Odisha to Tamil Nadu. • They are lower in height. • Mahendragiri (1501 m) is the highest peak. • They are source of very few and small rivers. • Some of the hill ranges in Eastern Ghats are Palni hills, Palcondas, Nallamalai.

Table 19.5





Fig. 19.16: Deccan Plateau

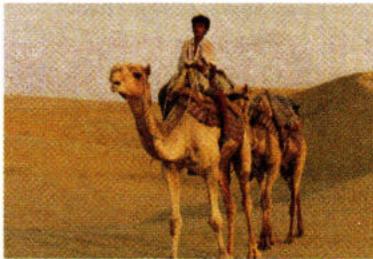


Fig. 19.17: Thar Desert

4. The Great Indian Desert

Located in Rajasthan, it is also called the **Thar** desert. It is hot, dry and sandy stretch of land which supports thorn bushes and mostly date palms. They are known for sand dunes of different shapes and sizes.

5. The Coastal Plains

The coastal plains mark the boundaries of the Deccan Plateau. These are divided into two parts:

- (a) The Eastern Coastal Plains
- (b) The Western Coastal Plains.

The main characteristics of Western Coastal Plains and Eastern Coastal Plains are stated below:

The Western Coastal Plains	The Eastern Coastal Plains
<ul style="list-style-type: none"> • They are located on west along the Arabian Sea. • Known as Konkan in north direction and Coromandel in south direction. • They are narrow, and instead of deltas they have estuaries, for example, estuaries of River Narmada and River Tapi. • They have lagoons or lakes on the coast (Vembanad) in Kerala. The lagoons of Kerala are also called Backwaters. 	<ul style="list-style-type: none"> • They are located on east along the Bay of Bengal. • They are known as Circars and Coromandel in north and south directions. • Eastern coast is wider and known for the presence of delta (Mahanadi, Godavari, Krishna, Kaveri deltas). • They have many salt lakes on coast e.g., Chilika lake in Odisha.



Fig. 19.18: A beach in Mumbai

Table 19.6

The coastal plains are known for natural harbours e.g., Mumbai, and Kochi. They have beautiful beaches which attract tourists.

The Island Territories

Our surrounding water bodies support group of islands belonging to India. They are **Andaman and Nicobar Islands** in Bay of Bengal and **Lakshadweep Islands** in Arabian Sea. Some features are stated below:

Andaman and Nicobar Islands are separated from each other by a channel called the Ten degree channel. Here, Barren Island is the only volcanically active island.

The main characteristics of Lakshadweep Islands and Andaman and Nicobar Islands are given below:

The relief features of India are important for the country as a whole and support each other. To prove it, some examples are given below:

- The mountains of north act as a barrier for free movement of people. They stop monsoon winds to give rains in India.

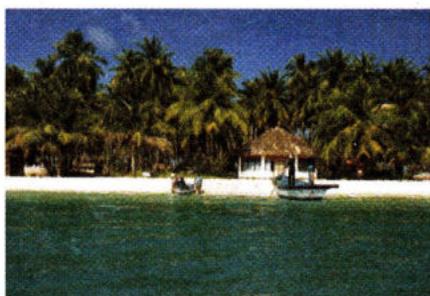


Fig. 19.19: Lakshadweep Islands



Lakshadweep Islands	Andaman and Nicobar Islands
<ul style="list-style-type: none"> • They are located in Arabian Sea. • They are closer to western coastline near Kerala. • They are small group of coral islands. • Its capital is Kavaratti. 	<ul style="list-style-type: none"> • They are located in Bay of Bengal. • They are far away from Indian mainland. • They are numerous, scattered and much bigger. They are peaks of mountains in Bay of Bengal. • Its capital is Port Blair.

Table 19.7



Fig. 19.20: The Andaman and Nicobar Islands were hit by Tsunami in 2004.



Let Us Recall

Delta: It is a triangular shaped platform formed by deposition of silt on the mouth of the river.

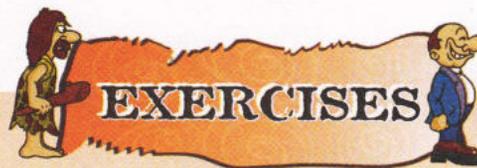
Estuary: It is a wide and deep mouth of river clear of silt.

Coral Islands: They are formed by organisms who live in shallow, warm and mud-free waters.

Lagoons: These are the salt water lakes in the coastal areas, separated from open sea by sandbars.

Sand dunes: These are mounds of loose sand in desert area.

Silt: It is the fine soil transported and deposited by rivers.



A. Choose the correct answer.

- Which of the following is the seventh largest country in terms of size?
 - Australia
 - India
 - America
 - Africa
- After which country, India is regarded as the second most cultivable land?
 - USA
 - Afghanistan
 - Myanmar
 - Denmark
- Name two countries which are neighbouring countries of India in the north-west.
 - Bangladesh and Myanmar
 - Pakistan and Afghanistan
 - Nepal and Bhutan
 - China and Sri Lanka



4. Which longitude is taken as the Standard Meridian of India?

(a) $82\frac{1}{2}^{\circ}\text{W}$	(b) $80\frac{1}{2}^{\circ}\text{E}$
(c) $82\frac{1}{2}^{\circ}\text{E}$	(d) 81°W
5. Name the state of India where Mt. Kanchenjunga is situated.

(a) West Bengal	(b) Sikkim
(c) Punjab	(d) Uttar Pradesh
6. Eastern extensions of hills in India are known as

(a) The Himalayas	(b) The Karakoram
(c) The Purvanchals	(d) The Shivaliks
7. 'Sunderbans' are formed by which pair of rivers?

(a) Ganga and Indus	(b) Ganga and Mahanadi
(c) Ganga and Brahmaputra	(d) Ganga and Krishna
8. Which river does not flow into Bay of Bengal?

(a) River Ganga	(b) River Tapi
(c) River Mahanadi	(d) River Brahmaputra
9. Point out the average height of Shivalik range above the sea level.

(a) 1500 m	(b) 1600 m
(c) 6000 m	(d) 5000 m
10. Which of the following is also known as 'tableland'?

(a) Shivalik range	(b) The Great Indian Desert
(c) The Peninsular Plateau	(d) The Northern Plains
11. Name the part where sand dunes are found.

(a) The Great Mountains	(b) The Central Highlands
(c) The Peninsular Plateau	(d) The Indian Desert
12. Lakshadweep Islands are located in the

(a) Bay of Bengal	(b) Pacific Ocean
(c) Arabian Sea	(d) Dead Sea

B. Answer the following questions.

1. What is the latitudinal and longitudinal extent of India?
2. Which latitude divides India into almost two equal halves? State its significance.
3. Name the meridian which helps fixing standard time in India.
4. In which hemisphere is India located?
5. Name the southernmost point of Indian mainland.
6. List out any two characteristics of the northern mountains.
7. Mention any four major salient features of Himalayas.
8. Why are Shivaliks prone to erosion and landslides?
9. Explain Purvanchals with examples.
10. How are the Great Plains formed? Name the rivers responsible for its formation.
11. Why have we chosen $82\frac{1}{2}^{\circ}\text{E}$ as the Standard Meridian of India?



C. Name the following.

1. Channel separating Andaman and Nicobar Islands
2. The coastal plains are known for
3. The capital of Lakshadweep islands
4. The largest delta
5. The elongated valleys in Himalayas
6. The highest peak in South India
7. A channel separating India from Sri Lanka

D. Differentiate between the following.

1. Himadri and Shivaliks.
2. Western Ghats and Eastern Ghats.
3. Western Coastal Plains and Eastern Coastal Plains.
4. Andaman and Nicobar Islands and Lakshadweep Islands.

E. Match the following.

Column A

1. Pamir Knot
2. Himalaya
3. Indo-Pak border
4. Mt. Kanchenjunga
5. Mt. Dhaulagiri

Column B

- (a) Nepal
- (b) 3,310 km long
- (c) Roof of the world
- (d) Abode of snow
- (e) India

F. State whether the following statements are true or false.

1. Mt. Everest is the highest peak in India.
2. Kullu and Kangra valleys are located in Shivaliks.
3. Sand dunes are formed in Sunderban Delta.
4. Ganga and Brahmaputra Rivers form delta.
5. Patkai Bum and Naga Hills are located in Western Ghats.
6. Narmada River forms estuary on the West Coast.

1. Individual Project

- (a) Make models of few Himalayan mountain ranges and prepare a report.
- (b) On an outline map of India, mark and write a short note on each
 - (i) State in which you live.
 - (ii) Standard meridian of India.
 - (iii) Andaman and Lakshadweep Islands.



20



India: Climate, Vegetation and Wildlife



Fig. 20.1: Weather



Fig. 20.2: Mt. Abu

While travelling from one part of the country to another, you must have noticed the change in temperature and vegetation. For example, visiting Goa or Bengaluru in December does not require any woollens; going to Shimla or Kullu in June/July means carrying woollens; umbrella is a must in Meghalaya due to rains.

Picking the newspapers or watching television, we come across weather bulletin, *i.e.*, report on day-to-day changes in atmospheric conditions – maximum and minimum temperatures, moisture, speed of wind, pressure, rainfall and cloudiness. Weather could be cloudy, rainy, pleasant, hot, etc.

Climate of India is tropical monsoon type due to its location in tropical and subtropical areas and presence of seasonal winds.

However, climate is different in different areas and varies from month to month. It is due to:

1. Distance from Sea
2. Distance from Equator (Latitude)
3. Altitude
4. Prevailing winds

1. Distance from Sea

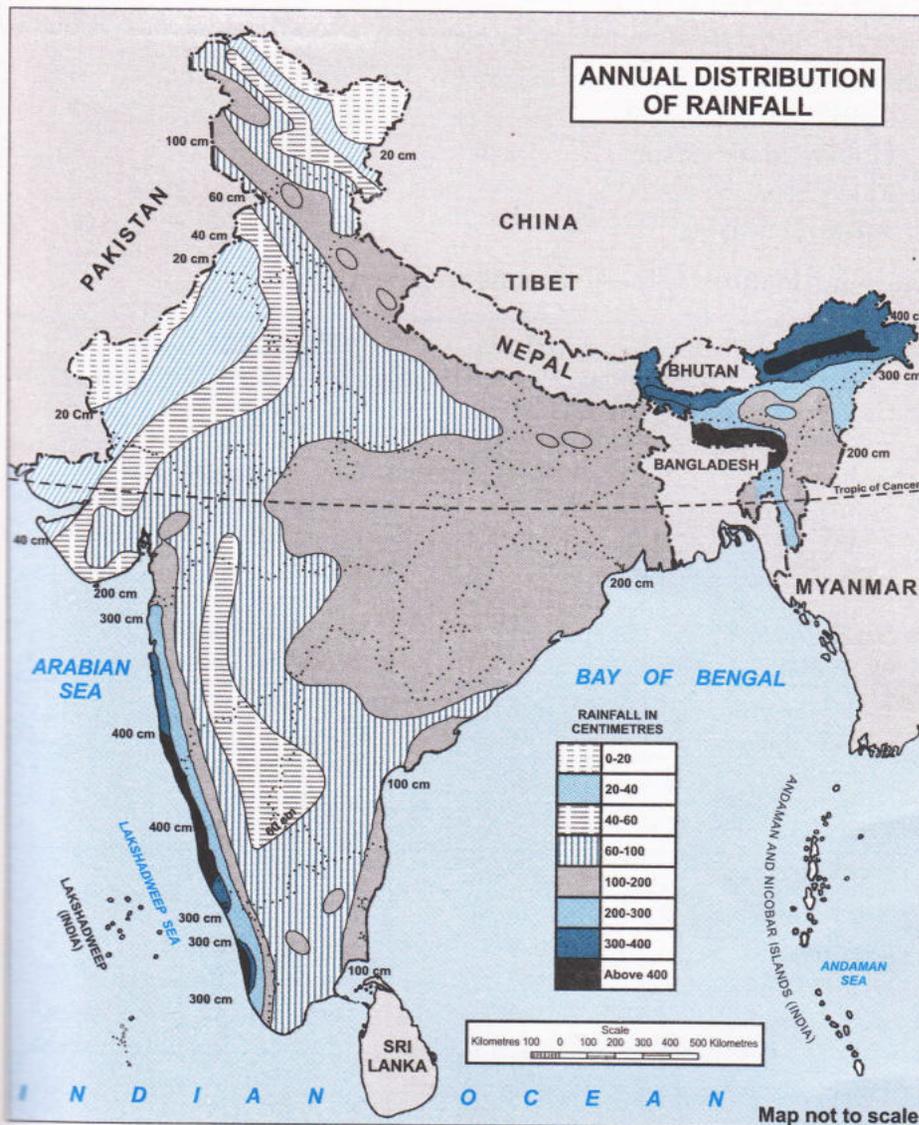
The places near the sea like Mumbai and Goa have almost the same temperature throughout the year. They experience moderate climate.

The places located far from sea, *e.g.*, Delhi, Chandigarh, Lucknow, Kanpur are hot in summer and cold in winters. They experience extreme climate.

2. Distance from Equator

Chennai and Kochi experience summer throughout the year due to proximity to Equator. Amritsar, Panipat, Patiala, Gwalior, etc. experience different weather conditions due to longer distance from Equator.





Map 20.1: India - Annual distribution of Rainfall

3. Altitude

As you go higher, it gets cooler at the rate of 1°C for every 165m ascent. Therefore, places located in mountainous region such as Shimla, Darjeeling, Srinagar, Mt. Abu are cooler than the places located in plains like Delhi, Kanpur, Chandigarh, etc.

4. Prevailing Winds

Warm winds increase the temperature of a place. For example, hot and dry winds called 'Loo' from Rajasthan in summer season make the climate of Delhi much warmer.

Similarly, cold winds make the temperature cooler. Moist winds from sea help in bringing rainfall.

A combination of these factors influence the climate of a place. Jaisalmer in Rajasthan desert is hottest in India and Ladakh in Kashmir is the coldest place. Temperature is same in Mumbai throughout the year.



Fact Bubble



Fig. 20.3: Himalayas

Himalayas stop the cold winds from China from entering India.



Fact Bubble



Fig. 20.4: Mawsynram

Mawsynram, near Cherapunji in Meghalaya experiences highest rainfall in the world.



Fact Bubble

1. Western Disturbances cause rainfall in Northern plains and snowfall in Himalayas.
2. Rainfall is good for winter crop.





Fact Bubble

Mango shower is local rainfall in summer which helps early ripening of mangoes.

Seasons in India

There are four main seasons in India:

1. Cold Weather Season
2. Hot Weather Season
3. Rainy Season
4. Autumn Season

The main features of these seasons are given below:

Name of Season	Duration	Characteristics	Winds	Special Mention
1. Cold Weather	December to February	<ul style="list-style-type: none"> • Cold temperatures in North India • Sunny days • Foggy mornings • Dew in night • Local rainfall • South India is warmer. 	Winds blow from north to south direction.	<ul style="list-style-type: none"> • Experience Western Disturbances • Cause light rainfall in Punjab, Rajasthan, Haryana, Delhi, Western UP
2. Hot Weather	March to May	<ul style="list-style-type: none"> • Hot days and warm nights • Scorching heat • Low moisture 	Local hot and dry winds called 'Loo' blow during day.	<ul style="list-style-type: none"> • Dust storms are common. • Local rainfall is caused
3. Rainy (Season of South-West Monsoons)	June to September	<ul style="list-style-type: none"> • Moderate temperature • Cloudy and rainy weather 	Moist winds blow from sea to land causing rainfall all over India.	Rainfall is caused by Monsoon winds. The word monsoon is derived from Arabic word 'Mausam' meaning season.
4. Autumn (Retreating Monsoons)	October to November	<ul style="list-style-type: none"> • Warm, sunny days • Cool nights 	Rainfall is caused by retreating monsoon on Coromandel coast of India.	

Table 20.1

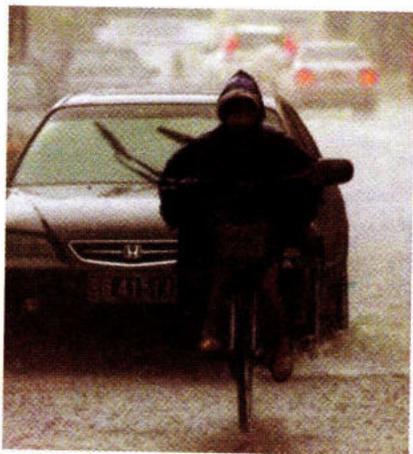
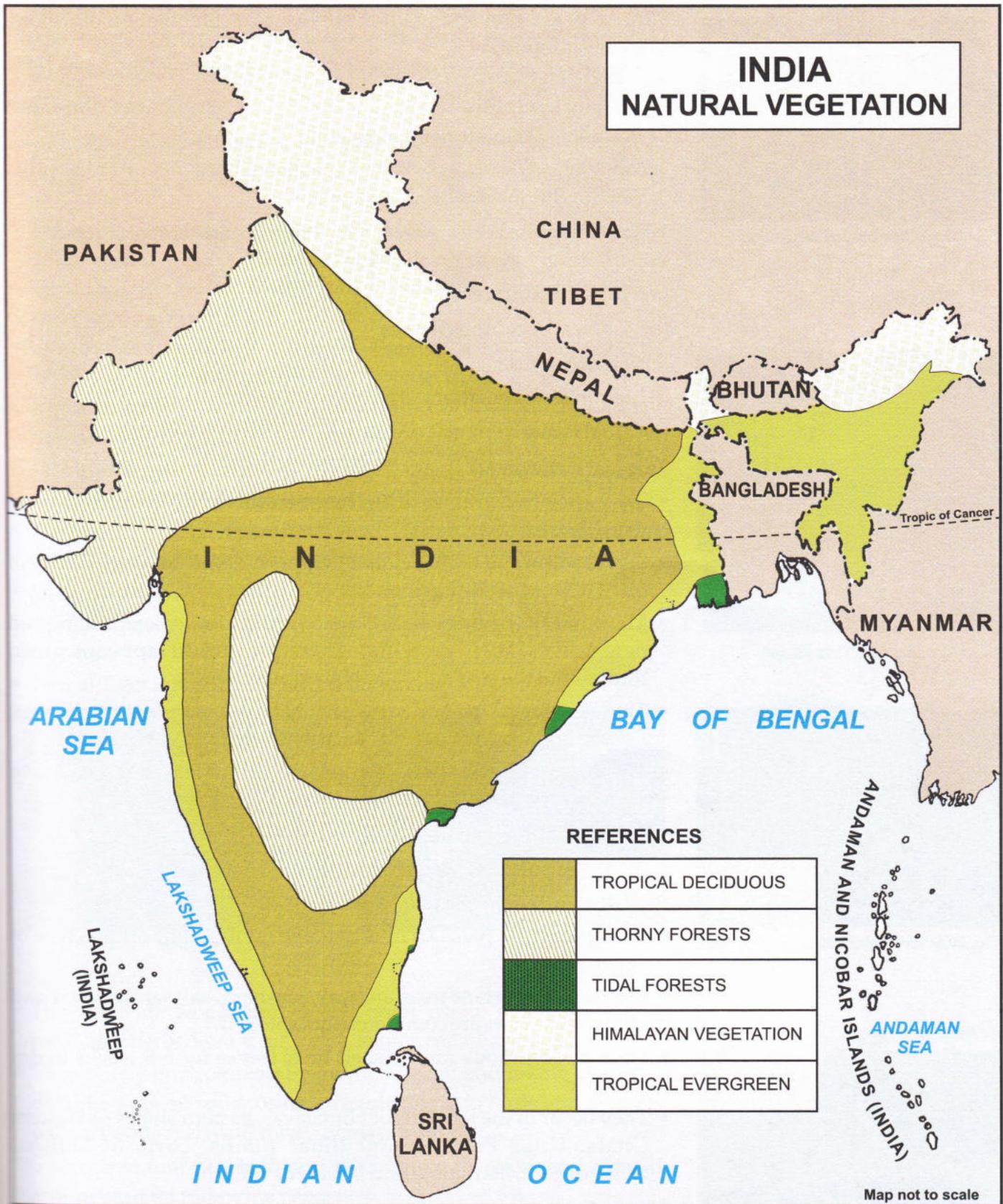


Fig. 20.5: Rainfall

The unifying factor of Indian climate is Monsoons. They are eagerly awaited by farmers as rainfall is the decisive factor for agriculture. Also, the Indian landscape, its animal and plant life, life of the people, including their festivities and economic conditions revolve around the monsoon. This makes monsoon a unifying bond for the sub-continent. However, the rainfall varies from place to place in India. Western Ghats, Western Coast and North-East hills receive more than 200 cm of rainfall while Rajasthan and most of Gujarat receive less than 50 cm of rainfall.

Natural Vegetation and Wildlife

Due to soil, climate and relief differences, there is a great variety of plant species and animal species in India. According to an estimate,



Map 20.2: Natural Vegetation of India

our country is fourth in Asia in plant diversity. At present, there are about 47,000 plant species in India. The monsoon forests form the dominant vegetation zone in this region.





Fig. 20.6: Natural vegetation



Fig. 20.7: Tropical rainforests



Fig. 20.8: Tropical deciduous rainforests



Fig. 20.9: Thorny rainforests

Diverse vegetation and wildlife are due to a combination of factors. They are as follows:

1. Varied landforms
2. Slope of land and altitude
3. Amount of rainfall and temperature
4. Climate
5. Soil conditions and drainage

Vegetation is basically affected by rainfall and temperature conditions. It has given rise to following vegetation types in India:

- (a) Tropical rainforests
- (b) Tropical deciduous forests
- (c) Thorny forests
- (d) Mountain vegetation
- (e) Tidal forests

Tropical Rainforests

- They are found in areas of high temperature and high rainfall more than 200 cm in a year.
- Such a warm and humid climate supports dense forests, a variety of plant life and maximum number of plants.
- The time of shedding leaves is not fixed. Old leaves keep falling and new leaves keep growing. Therefore, forest appears green throughout the year and called **Evergreen forests**.
- They are found in Andaman and Nicobar islands, the plains of Odisha and West Bengal, Kerala, Western Ghats, North-East Hills.
- The important trees are rosewood, ebony, sal, teak and mahogany. They are hardwood trees. Creepers are also common.

Tropical Deciduous Forest

- They are also called **Monsoon forests**.
- These forests are most widespread in India.
- Areas receiving 100-200 cm of average rainfall support this type of vegetation.
- The most important trees are teak, shisham, sal, sandalwood and khair. These trees are commercially exploited.
- Trees in deciduous forests shed their leaves for 6-8 weeks in dry summer.
- They occur in the foothills of Himalayas, eastern slopes of Western Ghats. Uttar Pradesh and Bihar plains, parts of Odisha, Chhattisgarh, Jharkhand and Madhya Pradesh.

Thorny Forests

- These forests occur in parts of Rajasthan, Jammu and Kashmir, Punjab, Haryana, Gujarat, Western Uttar Pradesh and drier parts of Deccan where the rainfall is less than 50 cm.



- The plants are 'xerophytic' adapted to shortage of water and developed long tap roots, thick barks and fleshy leaves and stems.
- Important plants are kikar, babul, bushes of ber and date-palms.

Mountain Vegetation

As you go higher, temperature cools, rainfall changes. Change in altitude in Himalayas, changes the vegetation types. These are given below:

- **Tropical deciduous forests** occur at lower altitude upto 1000 m.
- **Mixed deciduous and Coniferous forests** belt occurs upto 1800 m and supports chestnut and oak trees.
- **Coniferous forests** belt is from 1800 m to 3500 m. It supports fir, deodar, spruce and pine trees of softwood.
- **Alpine Meadow** or grasslands are found above 3500 m. Extreme cold cannot allow tree growth. Beyond 4400 m snow exists.

Tidal Forests

- Also referred to as Mangrove forests.
- They occur in delta regions of Ganga, Godavari, Krishna, Cauvery and Mahanadi Rivers.
- Mangrove and casurina are important trees in these forests.
- 'Sundari' trees are common trees after which Sundarbans are named.
- Bengal Tiger is found only in Sundarbans.



Fig. 20.12: Mangrove trees



Fig. 20.13: Sundari trees



Fig. 20.14: Bengal tiger



Fig. 20.10: Mountain vegetation



Fig. 20.11: Tidal Forest

Importance of Forests

- They provide wood, timber and other useful products such as medicinal herbs, honey, oil, gums, leaves, nuts, barks, etc.
- They purify environment by giving oxygen and taking in carbon dioxide, prevent soil erosion, provide home to birds and animals, reduce floods and wind force, increase rainfall.

The forests in India are being over-exploited, therefore endangered. Man is using it for following needs:

- To make way for new cities and towns.
- To make way for agriculture and industries.
- To exploit the forest wealth.



Fig. 20.15: Exploitation of forests





Fig. 20.14: Van Mahotsava

We must protect forest wealth for they are economically and environmentally significant. We ought to let them survive and protect and conserve them by observing **Van Mahotsava** i.e. the festival of planting trees.

Wildlife

India is a home of a variety of animals, birds, reptiles, insects and mammals. Tiger is our national animal and peacock is our national bird. Gir forests in Gujarat is the home of Asiatic lions. Elephants are common in deciduous forests of Assam, Karnataka and Tamil Nadu.



Fact Bubble

India has 372 species of mammals, 1228 species of birds, 446 species of reptiles, 204 species of amphibians.



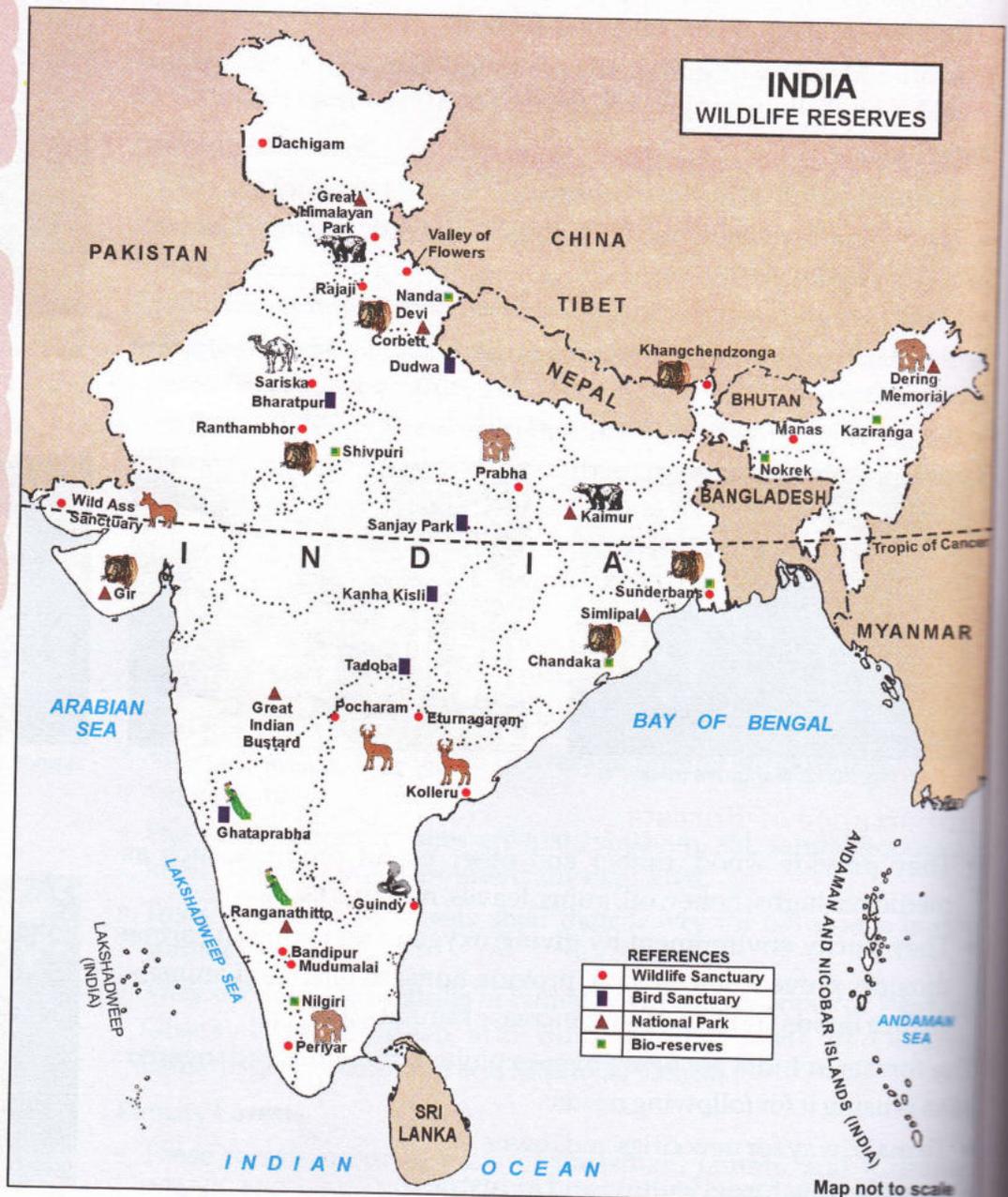
Fact Bubble

Black bucks are shiny black and white-coated animals especially deer and antelopes. They have been the favourite animals of hunters. Government has banned the hunting of such animals.



Explore!

Many reserves have been set up in our country to help in protecting the tigers from poachers. Find out who are poachers. How is the Indian government trying to discourage poaching? Also, find out how are zoos different from reserves? You can even ask your parents take you to zoo or a reserve in your area.



Map 20.3: Some Wildlife Reserves of India



One-horned rhinoceroses live in swampy grasslands of Assam and West Bengal. Ghariyals and crocodiles are found in river Ganga. Camels and wild asses are found in Rajasthan and Gujarat respectively. Himalayan region is rich in gazelle, wild goats and yak and many more animals.

Similarly, birdlife is rich in our forests and wet lands, e.g. mynahs, bulbuls, ducks, pigeons, cranes, egret, etc.

Conservation of Wildlife

Diversity in animal kingdom of India is significant. Besides providing products like hides, skin, wool, fur, meat, bones, musk etc. they help plants in their existence. But our diverse wildlife is in danger of extinction due to man's greed and his activities. In order to conserve and protect wildlife, Indian Government has taken various steps. They are as follows:

- Launched various projects, e.g. Project Tiger, Project Elephant and Project Rhinoceros. Project Tiger is a project to preserve the tigers population. Corbett National Park, the first national park of India, is one of the best examples. It is notable not only for its rich and varied wildlife but also for its scenic beauty.



Fig. 20.16: Project Tiger



Fig. 20.17: Project Elephant

- Established national parks, sanctuaries and biosphere reserves to protect and preserve animal and plants in this natural surrounding.
- They have imposed ban on hunting of animals.
- First week of October is celebrated as Wildlife Week to create awareness to conserve wilderness and to protect the existing forest cover and afforestation.

It is our responsibility to protect and conserve forests and animal wealth for the continued survival of mankind and pass our heritage to future generation.



Fact Bubble

Project Tiger was started in 1973 and Biosphere Reserve in 1986 in India.



Fig. 20.15: Corbett National Park

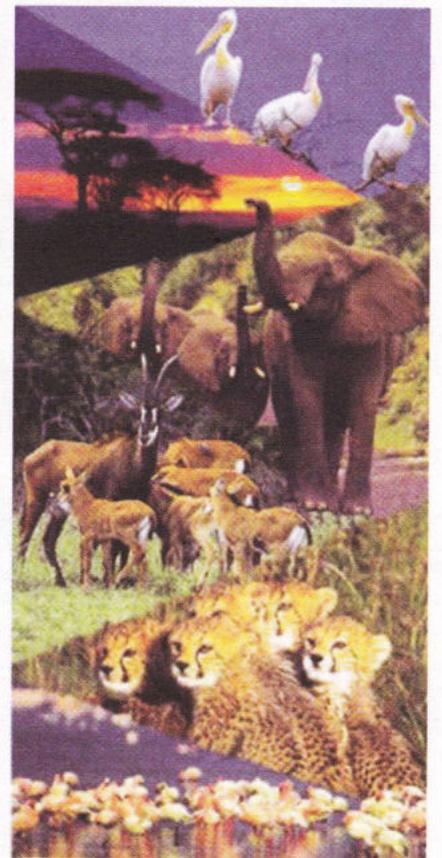


Fig. 20.18: Wildlife





Fig. 20.19: Storks in Bharatpur Bird Sanctuary.
Migratory birds such as Stork, Siberian crane, Curlew, Flamingo, etc., come in the winters in our country and stay here till early March.



Let Us Recall

Moderate climate: It refers to the same weather or temperature conditions throughout the year.

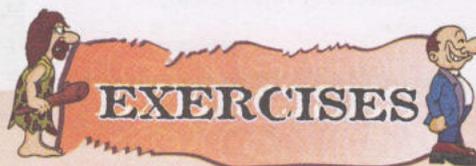
Extreme climate: The places away from sea are extremely hot in summers and extremely cold in winters. It is known as extreme climate.

Deciduous forests: They shed their leaves in dry summer.

Evergreen forests: They have no particular time for shedding their leaves.

Monsoon: Derived from Arabic word 'Mausam', meaning seasons, it refers to seasonal reversal of winds. They blow from sea to land in summer. Monsoons cause widespread rains in India.

National Parks, Bird Sanctuaries and Biosphere Reserves: These are the areas for preservation and protection of plants and wildlife in their natural surroundings.



A. Choose the correct answer.

- Changes in atmospheric conditions is called:

(a) climate	(b) weather
(c) pressure	(d) temperature
- Mawsynram is a place which experiences:

(a) highest temperature	(b) highest rainfall
(c) highest atmospheric pressure	(d) highest relief features



3. Climate differs at different places not due to:

(a) weather conditions	(b) temperature
(c) relief features	(d) distance from the sea
4. Name three places in India which experience different weather conditions due to longer distance from Equator.

(a) Panipat, Amritsar, Patiala	(b) West Bengal, Punjab, Nagaland
(c) Shimla, Darjeeling, Srinagar	(d) Delhi, Kanpur, Rajasthan
5. In which season, India experiences retreating monsoons?

(a) cold weather season	(b) hot weather season
(c) rainy season	(d) autumn season
6. Forests which are most widespread in India?

(a) Tropical rainforests	(b) Tropical deciduous forests
(c) Tidal forests	(d) Thorny forests
7. Evergreen forests are found in the areas which receives:

(a) above 200 cm of rainfall	(b) below 200 cm of rainfall
(c) above 300 cm of rainfall	(d) below 300 cm of rainfall
8. Mangrove forests are also known as:

(a) Thorny forests	(b) Monsoon forests
(c) Evergreen forests	(d) none of these
9. Bharatpur Wildlife Sanctuary is located in:

(a) Uttar Pradesh	(b) Madhya Pradesh
(c) Rajasthan	(d) Gujarat
10. Project Tiger was started in year:

(a) 1976	(b) 1973
(c) 1981	(d) 1975
11. One-horned rhinos live in swampy grasslands of:

(a) Rajasthan and Gujarat	(b) UP and Punjab
(c) Sikkim and Nagaland	(d) Assam and West Bengal
12. Name the first national park of India:

(a) Simlipal National Park	(b) Corbett National Park
(c) Ranganathitto National Park	(d) Kaziranga National Park

III. Answer the following questions.

1. What information is given by weather bulletins?
 2. What is the type of climate in India?
 3. List out four factors affecting the climate of India.
 4. What kind of winds are 'Loo'? How do they influence the climate of a place?
 5. Name the various seasons of India. Briefly explain.
 6. Mention the different vegetation types found in India.
 7. Enumerate various points to state the importance of forests.
 8. Why do we have diverse plant and wildlife in India?
 9. Why are our animals on the verge of extinction?
- III. State the steps which can help in saving wildlife.**



C. Fill in the blanks.

1. India receives most of the rainfall by _____ monsoons in _____ season from June to _____.
2. Early ripening of mangoes in South India is due to _____ in _____ season.
3. Duration of cold weather season is from _____ to _____ and hot weather season from _____ to _____.
4. Tropical deciduous forests are also called as _____.
5. _____ trees are common in Sundarbans.
6. One-horned _____ live in swampy grasslands of Assam and West Bengal.
7. First week of _____ is celebrated as _____ week.

D. Distinguish between the following.

1. Tropical deciduous forests and Tropical rainforests.
2. Tropical thorn vegetation and Tropical deciduous vegetation.

1. Individual Project

- (a) Make a list of some important plants and trees in your surroundings and classify them on the basis of their uses such as leaves, flowers, fruits, etc.
- (b) Collect the pictures of various birds and animals and paste them in your scrapbook.
- (c) Prepare a book report on 'Project Tiger'.
- (d) Make two posters on 'Save Tigers'.

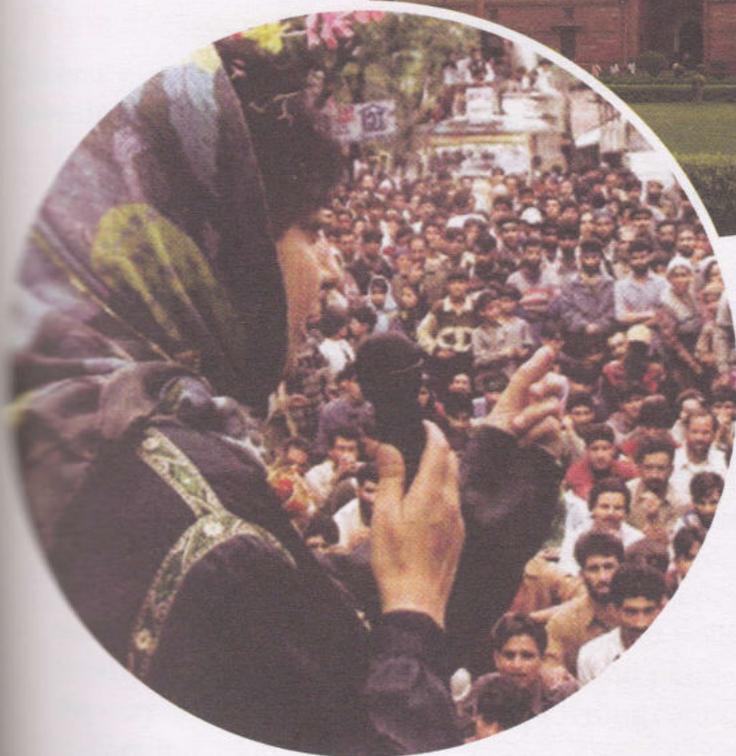
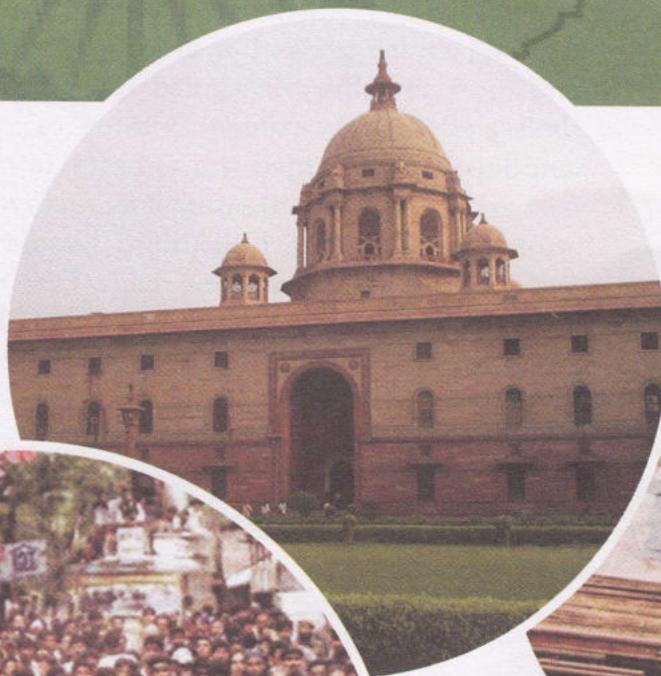
2. Field Trip

Arrange a trip to a wildlife sanctuary or a nearby zoo with your friends or elders. Watch various types of wildlife there and prepare a report.



Civics

Social & Political Life-I





21



Meaning of Diversity

The whole world is full of diversity. There are a variety of animals and plants. They all have different habitats and eating habits. Not just plants and animals, even human beings are different from one another across different races, cultures, regions and religions. Both genetic and environmental reasons are behind the variations. Though, human beings have similar features (two eyes, two ears, two hands, one nose, a developed brain) and systems (circulatory, digestive, nervous system, etc.) which perform similar functions, we look so different, wear different clothes and eat different foods. This is because hereditary and environmental conditions shape our lives. This is known as diversity and it has led to pluralism in the society.

Types of Diversity

Diversity can be of so many kinds that one can imagine. But in India, its main types can be categorised as under:

1. **Diversity in Society (Caste System).** Caste System is peculiar in India. It is based on religious belief that Lord Brahma gave birth to **Brahmins** from head, **Kshatriyas** from shoulders, **Vaishyas** from stomach and **Shudras** from the feet. This belief of Vedas led to the emergence of caste system that a particular caste should perform a particular function. The next generation happened to follow the same occupation which the forefathers of the same caste used to perform. Over a period of time, it gave rise to the feeling of superiority to castes of higher ladder and distrust and hatred for the caste of lower ladder. The so-called higher castes exploited the caste system in their own interest without considering man as a human being who has feelings and dignity as a person. Religion, which should be independent in society and political structure, became the intrinsic part of both social and political life. Hence, the very term 'Caste System' gained a wrong connotation and led to discrimination.



Fact Bubble



Fig. 21.1: Variations

If you look at the two individuals of the same kind e.g., two boys, you will find some variations between them. These variations are the result of genes.

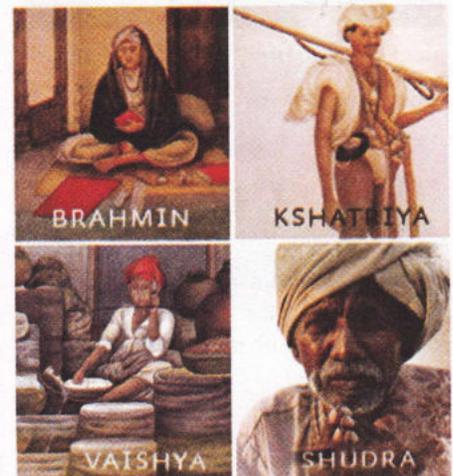


Fig. 21.2: Caste System



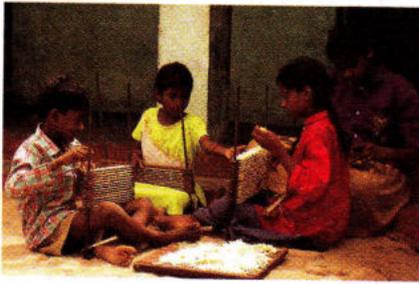


Fig. 21.3: Working children



Fig. 21.4: Learning children

The home environment plays a vital role in determining intelligence of children.



Fig. 21.9: Unity is our strength



Explore!

If all the people in a country start eating dal, will it make the country more diverse or less diverse? Find out.

2. **Diversity in Economic Field.** Economic activities can be classified into three types:

1. **Primary activities:** Farming, mining, fishing, etc.
2. **Secondary activities:** Weaving, carpentry, etc.
3. **Tertiary activities:** Teaching, banking, etc.

There is no end to the list. Apart from these three different economic activities, there are economic disparities which lead to discrimination. If a child of any community has not seen a school, he/she has to work in the childhood to become the bread-earner for the family. Even his/her primary needs such as food, clothing and shelter, etc., are not fulfilled. This is an example of economic disparity that ultimately leads to diversity.

3. **Diversity in Language:** All the languages, e.g. Hindi, Punjabi and several Indian languages have emerged from Sanskrit language, yet people in our country have different pronunciation and writing script. Total 22 national languages* specific to the region are spoken.

English language continues to be used for the official purposes which had already been in use before commencement of the Constitution.

4. **Diversity in Culture and Religion:** India is a secular country. Hinduism, Sikhism, Islam, Christianity, Jainism, Buddhism, and Zoroastrianism are the different religions of this country. They celebrate different festivals and have different religious books.

Religions can have different sects within itself, e.g., Muslims can be Sunnies or Shiyas and Christians can be Catholics or Protestants.

It should be kept in mind that all of us are children of one God, but have adopted different religions to reach the same Almighty. If we promote the concept of **one nation-one religion-one people**, there will be no place for religious war.

Diversity and Interdependence: A Necessity

1. The diversity adds spice to our lives. Living in the same environmental conditions, eating the same food, performing the same stereotypical functions can make us bore. Human brain is innovative. It is always in search of new ideas and this inquisitive mind keeps the civilisation growing.
2. We learn so many things from different cultures. India's culture is plural in nature as it has different regions such as North, South, East, West, North-Eastern, etc., and different communities like Hindus, Muslims, Sikhs, Christians, Sindhis, Parsis, etc. They have different languages, festivals, food habits, dances, attitudes and

* Hindi, Punjabi, Sindhi, Gujarati, Marathi, Bengali, Oriya, Assamese, Urdu, Sanskrit, Kashmiri, Tamil, Telugu, Kannada, Malayalam, Nepali, Manipuri, Konkani, Santhali, Maithili, Bodo and Dogri.



1. Hindu

Religion: Hinduism

Religious books: Ramayana, Bhagavadgita

Place of prayer: Temple

Festivals: Holi, Dussehra, Deepawali, etc.



Fig. 21.5:



2. Muslim

Religion: Islam

Religious book: Quran

Place of prayer: Mosque

Festivals: Id, Ramzan



Fig. 21.6:



3. Sikh

Religion: Sikhism

Religious book: Guru Granth Sahib

Place of prayer: Gurudwara

Festivals: Guruparv, etc.



Fig. 21.7:



4. Christian

Religion: Christianity

Religious book: Bible

Place of prayer: Church

Festivals: Christmas, Easter



Fig. 21.8:



religions. Hindus greet their Muslim friends on Id, Christian friends on Christmas and Sikh friends on Guruparv. Muslims, Sikhs and Christmas greet their Hindu friends on Holi, Deepawali, etc. This intermixing of different cultures leads to social growth and maturity, and cultivates the feeling of unity among the people of different regions, communities and religions.

3. Diversity specially in the economic field leads to interdependence. No person or community is self-sufficient. He/She has to depend upon others for personal needs. A shoemaker cannot fulfil his own needs nor his family needs all alone. So he/she has to depend upon others for food, clothing, etc.

4. Diverse interests leads to growth in different fields. Different types of arts, literatures, sports, etc., have developed due to different interests and skills of human beings. Mahatma Gandhi's philosophy gave the concept of non-violence to the entire world. Rabindranath Tagore, Prem Chand, Harivansh Rai Bachchan and Khuswant Singh's talents led to literary growth. Kalpana Chawla and Sunita Williams went to the space and raised India's prestige.



Fig. 21.10: Rabindranath Tagore



Fig. 21.11: Zakir Hussain





Fig. 21.12: Manmohan Singh



Fig. 21.13: Leander Paes



Fig. 21.14: People leaving village after a natural calamity



Fig. 21.15: Different religions



Fig. 21.16: Children spreading the message of unity

Ustad Zakir Hussain is a world-famous tabla maestro. Dr. Manmohan Singh became the Prime Minister of India in 2004. Birju Maharaj is a famous Kathak dancer. Leander Paes and Sania Mirza are raising India's prestige in the sport of tennis. So, diversity leads to growth in different fields.

Reasons of Diversity

1. **Sociological Reasons:** Diverse social groups cause diversity in society, *e.g.* caste system in India.
2. **Political Reasons:** If one country conquers the other or during the colonial regimes, different cultures interact with each other. This leads to diversity, *e.g.* Apartheid in South Africa.
3. **Biological Reasons:** Different interests, skills, inheritance lead to diversity.
4. **Historical Migratory Reasons:** People travel or migrate from one place to another due to the following reasons:
 - (i) In search of a new place, *e.g.* Vasco da Gama, a Portuguese traveller, discovered the sea route to India from Europe. Columbus discovered America.
 - (ii) To settle for the purpose of trade.
 - (iii) Natural calamities like drought, floods, contagious diseases force people to leave their native place.
 - (iv) During wars, people go to other places and become refugees to protect their lives.
 - (v) They leave their native places in search of better opportunities.

Humans have a tremendous quality of adaptability. In the changed region, he adopts the eating and clothing habits, style of living, language and even attitudes. And in turn, we spread our own culture. Different religions of India have been spread throughout the world by intermixing and influence. In India, too, this factor has contributed a lot. Language, food, religion, music – all become a blend of combination. People have learnt tolerance and respect. But this happens when human bond prevails.

5. **Geographical Reasons.** This can be well-explained by comparing the two regions of India – Ladakh and Kerala.

So, both Ladakh and Kerala are geographically different. But they are important for different reasons which led to the prevalence of diverse cultures in both areas.

Is Diversity an Obstacle to Growth?

We can now say that diversity is natural to human life and is a must. But sometimes, self-interest, fear, insecurity of one class or community hamper the growth process. Even clash of opinions among different religious groups cause riots. Therefore, diversity sometimes becomes an obstacle to growth.



Ladakh (A desert in Eastern Part of J & K)	Kerala (South-West Part of India)
Food	
<p>1. People eat meat, milk and milk products. People keep wild sheep, wild goats and yaks. Agriculture is not much possible due to scanty rainfall. People get water only from the melting snow. People keep dzos (yak-cows), goats and cows.</p>	<p>1. Land is fertile. This state grows rice in abundance. Rice and fish are main foods of the people and coconut is the main ingredient.</p>
Clothes	
<p>2. People wear woollen clothes. Sheep keeping is their main occupation. Ladakh provides Pashmina wool to J & K traders. Pashmina shawls are woven in Kashmir.</p>	<p>2. It is hot and humid region, so people wear light clothes.</p>
Importance of the Region	
<p>3. Historically, Ladakh is important because it helped in making Buddhism popular in Tibet. It is also called Little Tibet because of mixed cultures. It was a good trade-route also. It had many passes which helped to transport the goods to Tibet.</p>	<p>3. Many colourful festivals are celebrated here. Onam is the most popular festival which coincides with the harvest season. Year-round festivals, wildlife, hill stations, beaches and diverse flora and fauna make this region a unique destination for tourists. It is also famous for spices like cloves, pepper and cardamoms. Spices made this region an attractive place for trading.</p>
Diversity	
<p>4. Buddhist and Muslim population live here. Kesar Saga, the Tibetan National epic is popular in both the communities.</p>	<p>4. Due to the different historical influences, Jainism, Islam, Christianity, Hinduism and Buddhism all are popular here. St. Thomas, an Apostle of Christ, came here 2000 years ago to propagate Christianity in India.</p>

Table 21.1

Diversity as Strength

Diversity becomes a strength when the different communities inhabiting the area, feel united and secured. It is a common sight in India that its diversity becomes its strength during the crisis. Natural calamities like floods, drought, earthquakes, tsunami, etc., bring Indians together. They forget their religion and help one another. We have observed the humanitarian feelings among the people of





*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!*

Fig. 21.17: Symbols of Unity

different communities rather than having sectarian tendencies during that period. Before independence, different regions and cultures had united to oust the Britishers from India to make it free. They ultimately succeeded and defeated the policy of divide and rule of the colonial regime. Our National Flag and National Anthem became the symbol of unity.

After independence, our political leaders like Jawaharlal Nehru coined the catchy phrase of unity in diversity in his book 'Discovery of India'. The right to equality and liberty is the foundation stone of democracy. So, both philosophies and ideologies of political leaders can make diversity a strength. And if the thinking of society is altered towards tolerance, it will strengthen diversity from the roots itself.



Let Us Recall

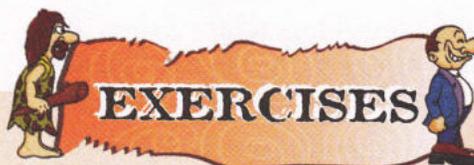
Diversity: It refers to the differences due to language, culture, religion, skill, quality, interest or any other cause.

Pashmina wool: People of Ladakh tame sheep because they produce Pashmina wool which is sold to the traders of Kashmir where Pashmina shawls are woven.

Kesar Saga: The famous National Epic of Tibet



Fig. 21.18: Women weaving Pashmina shawls



A. Choose the correct answer.

- Which of the following is the reason of biological diversity?
 - different interests and skills
 - different social groups
 - natural calamities
 - different religions



2. Mining and fishing come in which of the following categories?

(a) tertiary activities	(b) primary activities
(c) secondary activities	(d) none of these
3. Which of the following is a secondary activity?

(a) farming	(b) teaching
(c) weaving	(d) Afishing
4. Name the region where Pashmina wool is famous.

(a) Ladakh	(b) Kerala
(c) Jammu and Kashmir	(d) Punjab
5. Buddhism became popular in:

(a) Kerala	(b) Ladakh
(c) Tamil Nadu	(d) Gujarat
6. Onam is the most popular festival of:

(a) West Bengal	(b) Punjab
(c) Kerala	(d) Ladakh
7. Which of the following represents the symbol of our unity?

(a) National Animal	(b) National Calender
(c) National Anthem	(d) National Bird

B. Answer the following questions.

1. What is diversity? Enumerate the kinds of diversity.
2. Enlist the festivals celebrated by Hindus, Muslims, Sikhs and Christians.
3. Is diversity a curse or a boon?
4. Give the main reasons of diversity.
5. Compare the reasons of diversity in Ladakh and Kerala.

C. Fill in the blanks.

1. The whole world is full of _____.
2. Indian society is divided into _____ major castes according to the Vedas.
3. The philosophy of Mahatma Gandhi gave the concept of _____ to the entire world.
4. Humans have a tremendous quality of _____.
5. Diversity becomes a _____ when the different _____ inhabiting the area, feel united and secured.

D. State whether the following statements are true or false.

1. This is diversity which has led to pluralism in society.
2. Farming is a tertiary activity.
3. Migration is one of the causes of intermixing of different cultures.
4. Diverse interests lead to growth in different fields.
5. Kerala and Ladakh are geographically same.



E. Match the following.

Column A

1. Jawaharlal Nehru
2. Shudras
3. Columbus discovered
4. Banking
5. Islam

Column B

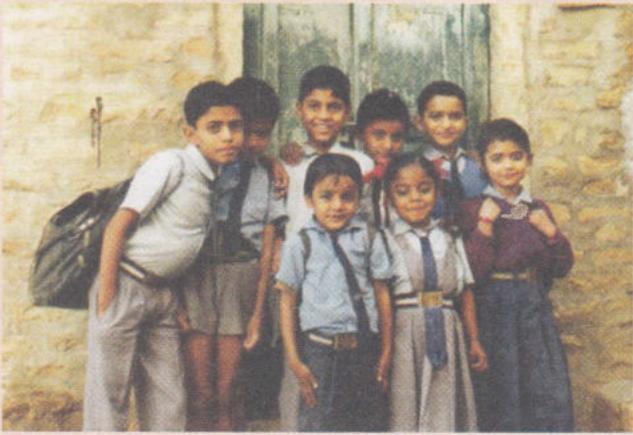
- (a) Ramzan
- (b) Tertiary activity
- (c) Discovery of India
- (d) Low caste people
- (e) America

F. Give reasons.

1. Sometimes diversity becomes an obstacle to growth.
2. People travel or migrate from one place to another.

1. Group Activity

- (a) Collect the photographs of the people of different cultures prevalent in India. Observe their dresses, dances, festivals celebrated by them and any other peculiar thing you notice in them.
- (b) Compare the two photographs given below. Discuss in the class on the basis of your understanding.
 - (i) How will you relate the difference in the two photographs to inequality, stereotype and discrimination?
 - (ii) When they will grow up, what sort of livelihood can you imagine, they will get?



Children going to school



Children working as labourers.



22



Diversity, Prejudice, Stereotypes and Discrimination

In the previous chapter, we have discussed the reasons and importance of diversity. In this chapter, we will study how, at times, diversity becomes a cause of concern when it leads to prejudices, discriminations, stereotypes and inequalities. Let us study about these in detail.

Prejudice

Prejudice means bias, having negative feelings towards anyone or anything and giving unfair preference to the other person or thing. It generates the feeling of hatred as it considers the other person inferior. Prejudice can arise out of many things, such as, colour of the skin (apartheid), region (tribal, rural or urban), language (e.g. English or any other) and religion. Fanatics always consider their religion as superior.

Effects of Prejudice: This leads to mutual distrust and becomes a hindrance in creating harmony in a society.

Stereotypes

Stereotypes are the pre-conceived ideas about anything. We generalise our opinions which are based on pre-conceived ideas of older generation particularly. Take an example of gender difference. It is said that continuity of the family depends upon the male child only and not female child who is considered as a liability and property of others. So if a family gives preference to male child, the next generation will automatically inherit this opinion and such opinions make the girl child unwanted and burden on the family.



Fig. 22.1: Tribal people



Fig. 22.2: City people



Fig. 22.3: Boys in school





Explore!

Do you think lowering fees for girls will help more girls to attend the school? Find out.



Fig. 22.4: Girls in house



Fig. 22.5: Violence



Fig. 22.6: People of Minority Community

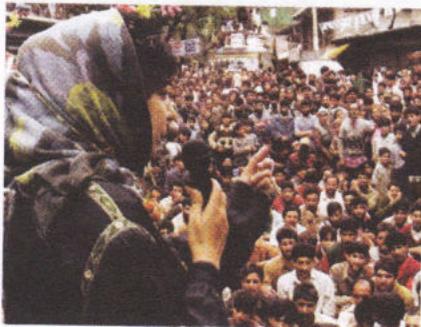


Fig. 22.7: Political leaders even exploit sentiments of different communities during election.

Families often resort to heinous crimes like female foeticide to get rid of the female child. Parents take care of their male children only. All attempts are made to make the male children proficient in one occupation or the other, and the female children are basically trained for household works. Hence, stereotypical opinions lead to discrimination. But sometimes, discrimination arise due to the economic reasons. Kerala is a living example of this. It is a common belief that people belonging to Muslim community do not educate the girl child. But, in Kerala, Muslim girls do go to school because the government has provided them bus facility. This very fact proves that improper education of girl child is not related to the ideas of any religious community. It is due to economic reasons. So, stereotypes are the fixation of people into the image which has no rational footing. It is just because we have been listening for years and repeating it in our lives. But sometimes, so-called stereotype is not actually a stereotype but due to poverty that we generalise these things.

Effects of Stereotypes

1. Stereotypes do not give respect to the person, community or race.
2. People with stereotypical attitudes fix people into one image. They do not assess the person on humanitarian grounds who may have many qualities and skills.
3. The concerned individual, community or race feel insecure and humiliated which in turn generate disregard and hatred for the superior race, community or individual. This leads to the undergrowth of personality and sometimes violence.

Discrimination

If prejudice is a thought, discrimination is the action on the line of that thought.

Causes of Discrimination

1. **Societal causes:** Discrimination can be different in various societies. Family or parents can become the cause of gender-based discrimination in the society.
2. **Majority vs Minority:** Minority community may feel insecure in the hands of majority.
3. **Religious causes:** Religious fanaticism or religious intolerance may give rise to the feeling of hatred or insecurity to other religion.

Effects of Discrimination

1. It leads to ethnic hostilities and disrupts peace of society.
2. Racial arrogance, which means the superior feeling of one race over the other, is generated.
3. It leads to suspicion, distrust among the communities because of total bitterness prevails and unity of the country is disrupted.
4. In a democracy, often political parties exploit the sentiments of different communities to increase their vote bank. So, healthy political environment is not generated.



Examples of Discrimination

- 1. Caste System in India:** Untouchables (Dalits) were the worst sufferers before the implementation of the Constitution of India. The people who belonged to the so-called upper caste used to hate them. They neither intermingled with them, nor had any social interaction with them. They used to do the needful work for the upper caste people without which they would not have managed a decent life. They were not allowed to go to the temple or have water from the public well. **Dr. B.R. Ambedkar**, who belonged to Mahar caste, had to suffer a lot due to discrimination. He had fought for the rights of the Dalits. He made provision to eradicate this social evil by providing right to equality in the Indian Constitution.
- 2. Apartheid in South Africa:** The term 'Apartheid' stands for separation on the basis of race. It was a system of racial segregation that was prevalent in South Africa. Under this system, people were legally classified into two racial groups – **Black** and **White**.

After the Boer War in 1910, the union of South Africa was constituted. Now, the European Whites came into light as the new government. They treated the natives and Asian immigrants in the most insulting way. The Blacks were considered second grade citizens. It was a common belief that the Whites were born masters and the Blacks were born servants. Blacks were treated in most inhuman ways especially in schools, colleges, offices, industries, clubs, hotels, buses, trains, etc. The first and second class train carriages were for Whites and third class for Blacks only. Once, Mahatma Gandhi was thrown out of the train because he was travelling by first class. Frustrated with this, Gandhiji started his non-violent Civil Disobedience Movement.

Year 1976 marked the beginning of anti-apartheid revolt. Nelson Mandela started anti-apartheid struggle through his party 'African National Congress' (ANC). All top leaders of ANC's were arrested in 1963. Mandela and few others were sentenced to life imprisonment. In February 1990, elected President FW de Klerk announced the unbanning of the liberation movements and the release of political prisoners, notably Nelson Mandela. South Africa held its first democratic election in 1994 and Nelson Mandela became the first (Black) President of South Africa. South Africa celebrates 27th April of every year as Freedom Day (Independence Day). In 1993, FW de Klerk and Mandela were jointly awarded the Nobel Peace Prize for their work for the peaceful termination of the apartheid regime, and for laying the foundations of a new democratic South Africa.

- 3. Inequality:** Inequality means treating prejudicially or differently. If one is poor, the other is rich, one is educated, the other is illiterate. This may not be due to discrimination or prejudice but due to economic inequality. This may lead to discrimination.



Fig. 22.8: Dr. B.R. Ambedkar, the father of the Indian Constitution



Explore!

Dr. BR Ambedkar, who fought for the rights of Dalits, has written extensively about his own experiences with discrimination. Find out more about him and his writings.

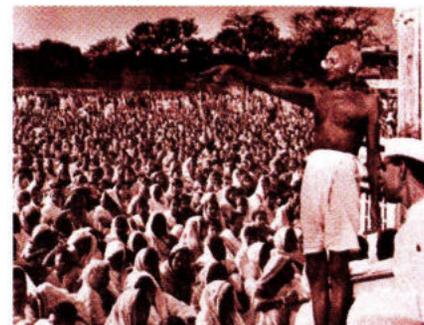


Fig. 22.9: Mahatma Gandhi during Civil Disobedience Movement

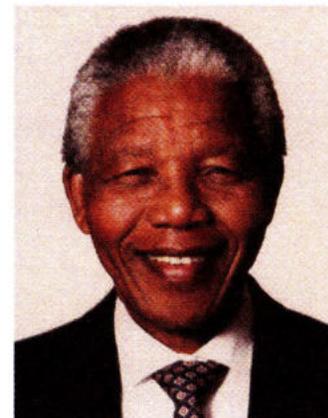


Fig. 22.10: Nelson Mandela





Fig. 22.11: Discrimination and inequality are abolished by law.



Fig. 22.12: Scheduled caste children

Steps Required to Reduce the Discrimination and Inequality

1. **Education:** Both formal and informal means of education should inculcate the feelings of harmony.
2. **Laws:** Laws should be made to reduce discrimination and inequalities and should be strictly adhered.
3. **Role of Political Parties:** Political parties should have strict moral code of conduct. They must not be allowed to spoil the political system to gain a vote bank.
4. **Inter-caste Marriages:** Inter-caste marriages should be encouraged.
5. **Media:** Media should encourage harmony among different communities.
6. **Religion should not breed hatred:** Meaning of religion should be propagated in a broader sense which should breed harmony, tolerance and respect for all.

Equality: The Prime Concern of the Indian Constitution

The Indian Constitution has tried to eradicate inequality and discrimination by:

1. **Providing Right to Equality:** Article 14 to 18 deal with right to equality, according to which everyone is equal before law, untouchability is considered a crime and equal rights and opportunities are available to all.
2. **Directive Principle of State Policy:** It provides for the gender equality, free and compulsory education of the children below the

Constitutions

(a) Written:

India
France
USA
Russia
Germany
Ireland

(b) Unwritten:

Great Britain

CONSTITUTION OF INDIA

Preamble

WE, THE PEOPLE OF INDIA having solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizen

JUSTICE, social, economic and political

LIBERTY of thought, expression, belief, faith and worship

EQUALITY of status and of opportunity: and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**



age of 14 and prohibiting them from working in the hazardous conditions. Educational and economic interests of the weaker sections, particularly scheduled castes and scheduled tribes are protected. They are also protected from exploitation.

India was made a secular state through 42nd Amendment by writing the word 'secular' in the **Preamble of the Indian Constitution**. By secularism, we mean that different religions can be promoted themselves. Everyone can follow the religion of one's choice, can safeguard the cultural heritage, speak any language. Both these factors, equality and secularism, have strengthened the unity of India.

Social Solution to Discrimination and Inequality

- 1. Recognition of Multiple Identities:** There are different identities within ourselves. No one is alike in tastes, skills and qualities and bent of mind. First of all, we must accept this reality of multiplicity that diversity does exist in our society. Secondly, we must respect the diversity. Both recognition and respect of diversity are the solutions to discrimination. Only then we will be able to enjoy the diversity and will not try to suppress the people, things which are different from others.
- 2. Vigilant and Alert Attitude:** The concerned person or community which feels discriminated should rise to the occasion and should be vigilant enough not to get exploited. The attitudes should also be changed through different sources of socialisation *e.g.*, schools, media, literature, governmental propaganda and political parties. One should be well-aware of one's rights. Rest of the things are protected by our Constitution and laws.

Our Constitution makers have put secular provisions in the Constitution. Our Constitution guarantees right to freedom to all Indians. There is no place for prejudice, inequality and discrimination.



सत्यमेव जयते

Fig. 22.13: Indian Constitution



Fig. 22.14: Indian Constitution makers



Let Us Recall

Prejudice: Bias or thought having negative feelings.

Stereotypes: It means fixation of people into the image which has no rational footing.

Inequality: It means treating differently.

Preamble: It is the introductory page of the Indian Constitution. It is non-justiciable but important.

Dalit: It is a term used for the people of lower caste.

Apartheid: It is an institutionalised segregation of the community on the basis of the colour of the skin in South Africa, where the Blacks were discriminated by the Whites.





A. Choose the correct answer.

1. Prejudice refers to:
(a) the pre-conceived idea about anything
(b) action towards a thought
(c) bias, having negative feelings towards anyone or anything
(d) inequality
2. Discrimination on the basis of colour is called:
(a) aristocracy
(b) dictatorship
(c) apartheid
(d) democracy
3. In which year South Africa held its first democratic elections?
(a) 1994
(b) 1993
(c) 1995
(d) 1992
4. An example of discrimination is:
(a) Prejudice
(b) Stereotype
(c) Inequality
(d) Differentiation
5. Which of the following is the topmost priority issue in the Indian Constitution?
(a) inequality and discrimination
(b) equality among different sections of the people
(c) health issues
(d) caste system
6. 'Right to Equality' is provided in which Article of Indian Constitution?
(a) Article 16
(b) Article 14 to 18
(c) Article 14 to 16
(d) Article 13
7. In which part of Indian Constitution the interests of the weaker sections of the people are protected from exploitation?
(a) Fundamental Rights
(b) Fundamental Duties
(c) Directive Principles of State Policy
(d) Amendment Acts
8. The word 'secular' was added in the Indian Constitution by:
(a) 43rd Amendment
(b) 41st Amendment
(c) 42nd Amendment
(d) 38th Amendment

B. Answer the following questions.

1. How does inequality lead to discrimination?
2. Distinguish between prejudice and discrimination.
3. What are the causes and ill-effects of discrimination?
4. "Stereotypical behaviour leads to discrimination in society." Explain.
5. What is the solution to discrimination and inequality?
6. Write a few real life examples of discrimination.



7. How were social inequality in India and apartheid in South Africa eradicated? Was it the right way to deal with such inequalities which took an epidemic form?
8. Write a few lines about anti-apartheid revolt in year 1976.
9. What do you know about the Preamble of the Indian Constitution?
10. How is equality safeguarded in the Indian Constitution?

C. Match the following.

Column A

1. Economic inequality
2. Racial groups
3. Gender-based discrimination is
4. Discrimination on the basis of caste is called
5. Dr. B.R. Ambedkar

Column B

- (a) untouchability
- (b) a stereotype discrimination
- (c) leads to discrimination
- (d) removed untouchability
- (e) blacks and whites

D. Fill in the blanks.

1. Prejudice generates the feeling of _____ as it considers the other person _____.
2. _____ are the fixation of people into the image which has no rational footing.
3. Discrimination leads to ethnic _____ and disrupts _____ of society.
4. Both _____ and respect of _____ are the solutions to discrimination.
5. Our _____ guarantees right to freedom to all Indians.

E. Give reasons.

1. Most of the families give preference to male children.
2. Gender bias prevails in India.

F. State whether the following statements are true or false.

1. Prejudice can be about many things.
2. Stereotypes give respect to the person, community or race.
3. Discrimination leads to suspicion, distrust among the communities.
4. After the Boer War in 1901, the union of South Africa was constituted.
5. Inequality means treating differently.

L. Project Work

Write a letter to the editor of a newspaper on the discrimination you have observed in your neighbourhood while dealing with a domestic servant or a rag picker below the age of 14 years or a girl child.





What is Government?



Fig. 23.1: Supreme Court of India

The word Government is derived from Greek word 'Kupeprings', which means Steersman, Governor, Pilot or Rudder. In political parlance, "a government is a body that has the authority to make, and the power to enforce laws within a civil, corporate, religious, academic or other organisation or a group." In a broader sense, to govern means to administer or supervise, whether over a state or a group of people.

Attributes of Government

Government usually possesses two attributes:

1. **Authority:** It has the ability to compel obedience.
2. **Legitimacy:** It prompts the governed to obey willingly to its authority.

Organs of Government

The government has three organs:

1. **Legislature:** It has the power to make laws.
2. **Executive:** It has the power to execute laws.
3. **Judiciary:** It has the power to judge and apply punishment when laws are broken.

The State and the Government

The government is an integral part of state without which it cannot function. **The government is an organisation through which the state manifests its will, issues its commands and conducts its affairs.** For the very existence of state, political organisation is necessary. Without the government, state is just a collection of people or a crowd or an anarchy where lawlessness prevails and civilised society cannot be expected. The government organises the state in a lawful manner.

Why do we need a government?

The government plays a vital role in almost all the fields of human life. It performs the following functions:

Police Functions

1. It saves our life and property. It gives punishment to the guilty and does the justice.



Fig. 23.2: Everybody is equal before law.



2. It brings social harmony as it resolves clashes between different groups.
3. Police and other government functions work during natural calamities like flood, tsunami, earthquake and famine. No organisation other than the government is capable enough to tackle such situations.

Other Functions

1. International relations are maintained through the government.
2. Government takes care of public health by taking many measures, *e.g.* Pulse Polio Programme.
3. It cares for the disabled and elderly persons, *e.g.* scheme of old-age pension.
4. It builds school, roads, bridges, railway lines, etc.
5. It provides all fastest means of transport. Railway is one of them. In India, Railway is the biggest government organisation employing about 1.6 million people.
6. It provides justice to the needy. The Supreme Court functioning from New Delhi, is the Apex Court in India. High Court is at the head of the judicial administration of the state. There are 21 High Courts in India.
7. It provides petroleum services to us, *e.g.* Bharat Petroleum.
8. It provides postal services to us.

State can take up as many welfare functions as the changing circumstances may require. There is no end to the list.

Classification Of The Government

According to Garner, governments vary widely in respect to the following:

1. The form of their organisations (Democratic, Republic or Hereditary).
2. In their spirit and methods (Unitary or Federal).
3. The mode in which those who govern are chosen by the people (Democratic or Dictatorial).
4. The relation between legislature, executive and judicial organs (Parliamentary or Presidential).
5. The nature and extent of authority with which they are vested (Limited Monarchy of UK or Constitutional Dictatorship of erstwhile USSR).

The most convenient classification is based on the number of persons who exercise sovereign power.

1. MONARCHY

Any government, in which the supreme and final authority is in the hands of a single person, is called monarchy. It is immaterial whether his office is conferred by election (by Parliament or people) or is derived by hereditary succession or whether he bears the title of an Emperor, King, Czar, the President or the Dictator. In the medieval period, Nadir Shah was elected as a ruler of Iran, the emperors of Holy Roman Empire



Fig. 23.3: Police



Fig. 23.4: Indian Railway



Fig. 23.5: Petroleum Services



Fig. 23.6: Rashtrapati Bhawan



Fact Bubble

In India, we have the democratic form of government.



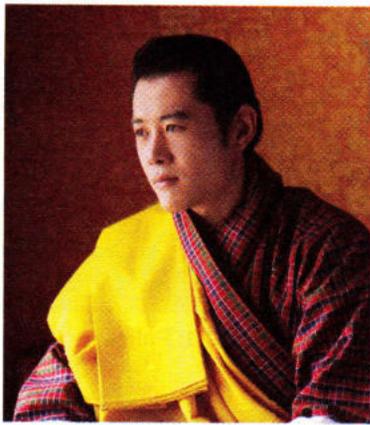


Fig. 23.7: Bhutan King Jigme Khesar Namgyel Wangchuk



Explore!

Britain has both a monarchy and an elected government. Find out how this system works for the country.

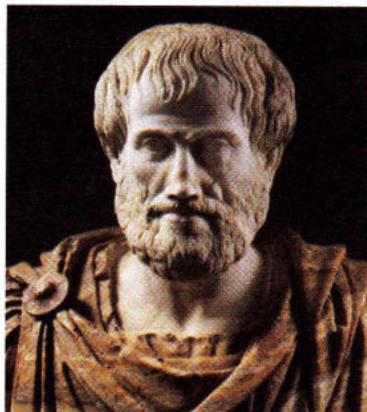


Fig. 23.8: Aristotle, a famous Greek philosopher

were chosen by small groups of people. In Bhutan, people have the monarchical form of government.

Kinds of Monarchy

(A) Absolute Monarchy: It is the one, in which, the monarch is not necessarily the titular head of the state but is actually the sovereign. His will is the law. He is bound by no will except his own. In such a situation, state and government, legally speaking, are identical, the monarch being not only an organ of the government, rather sole organ, but also the sovereign.

(B) Limited Monarchy: In this, the power of the monarch is restricted by the written constitution or by certain unwritten fundamental constitutional principles such as, the British Monarchy is a limited Monarchy.

2. ARISTOCRACY

It is a form of government in which political power is exercised by the few. In this sense, it is a government in which the power is held by the nobility. Ancient Greeks conceived aristocracy as the best form of government.

3. OLIGARCHY

Ancient Greeks like Aristotle considered it as a perverted form of aristocracy as it was a government by the wealthy. Seeley called it a deranged form of aristocracy. It was in fact a government in which the land owners together with the other wealthy and bureaucratically trained classes exercised the controlling power.

4. DEMOCRACY

Democracy is the best form of government as it has been defined by Abraham Lincoln. According to him, "a government of the people, by the people and for the people" – this is democracy in which people elect their representatives. The representatives make laws and are accountable and answerable to the people. People themselves take part in all government's activities and exercise their will in every election. There is no distinction between people based on caste,

Levels of Government in India

Government	National Level	State Level	Local Level
Legislature	Parliament has two Houses – Lok Sabha and Rajya Sabha	Bicameral Legislature: Legislative Assemblies and Legislative Councils	Panchayats in rural areas and Municipal Committees and Corporations in urban areas.
Executive	Nominal Executive: President Real Executive: Prime Minister and Cabinet	Nominal Executive: Governor Real Executive: Chief Minister and Cabinet	
Judiciary	Supreme Court as an Apex Court of single integrated judiciary	High Courts	Lower Courts (District, Tehsils)

Table 23.1



colour, religion, race, gender, literacy or economic condition. We have seen democratic governments in most of the countries including India, Sri Lanka, etc.

Types of Democracy

- (a) **Direct Democracy:** This is the one in which the will of the state is expressed directly through the people in mass meeting or primary assembly, rather than through the medium of delegates or representatives chosen to act for them. It is possible only in small states.
- (b) **Indirect or Representative Democracy:** In this, the will of the state is expressed through a relatively small and selected body of persons chosen by the people to act as their representatives. It originated in England in the 17th century. In France and Italy, it gained momentum in 1848. Since then, it has nearly become universal. Indirect democracy is also prevalent in India, Japan and USA.

Republican Government

In the most simpler sense, republican form of government is the one in which real head of the nation or the state is elected directly or indirectly by large majority of people, e.g. in India, the Prime Minister or the Chief Minister of the state. But in USA, the President is the real head and he is elected by the people directly. UK is not a republic as the office of king or queen is hereditary.

Universal Adult Franchise (Suffrage)

Franchise or Suffrage is the right to express one's choice by voting. When every adult of a country avails the right to vote, it becomes **Universal Adult Franchise**. It has become a pre-requisite for democracy. Before independence, dalits, minority communities and women were not allowed to vote. But at present, 65 crore (approximately) people in all over India enjoy their voting rights due to the principle of Universal Adult Franchise. In India, the age for right to vote is 18 years, earlier it was 21 years. It has created a sense of national pride and patriotism among our youths. Universal Adult Suffrage is necessary because:

1. It makes a country truly democratic.
2. It has created interest in people. People elect the government through voting procedure. They regard the government and accept all its functions. Therefore, people take more interest in public and government activities.
3. People judge the activities of government. They can throw the government out by means of their votes in the next election, if it does not work properly. So, right to vote makes the government accountable to all.
4. Political equality is ensured in which everyone has a share in the polity. Age, colour, creed, race, gender, literacy or economic condition are not the hindrances in availing political rights by citizens.



Fig. 23.9: Parliament House of India



Fig. 23.10: White House of USA



Fig. 23.11: Every adult avails the right to vote



Fig. 23.12: Election Process





Fig. 23.13: Women Suffrage Movement in USA



Fig. 23.14: Women casting their votes in India



Fig. 23.15: Mrs. Pratibha Patil, the first woman President of India (2007-2012)

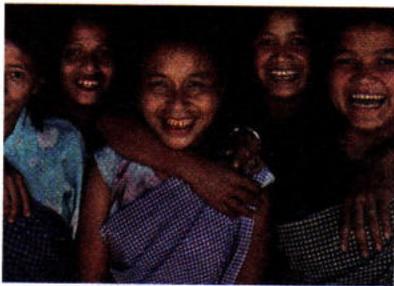


Fig. 23.16: Now women have equal share along with men in their parental property.

Struggle for the Universal Adult Suffrage

Women Suffrage Movements (in USA and UK). The women suffrage movement was the struggle to gain the right to vote as men. Supporters of this demand who participated in the movement were called as suffragists. Changing social conditions for women during the early 1800', combined with the idea of equality, led to the birth of the **Women Suffrage Movement**. It gained momentum in USA after the 15th Amendment of the Constitution was passed, which gave the right to vote to the Blacks but not to any woman. In 1869, suffragists formed two national movements and demanded the right to vote for women and to get their rights heard, they claimed themselves to railings in public places. Many women went on hunger strikes, many were arrested and fined. All these incidents attracted nation wide attention. Finally, in 1920, American women got the right to vote, while women in UK got this right in 1928.

Status of Women in India. Sarojini Naidu headed a deputation of the Indian Women's Association which met with the British Viceroy to demand the right to vote, in 1919. The Indian National Congress supported it. In 1950, soon after India's independence, women were granted the right to vote when the Constitution adopted the principle of Universal Adult Franchise.

By 1980s, women could vote virtually everywhere in the world except for a small proportion of Muslim countries. In Kuwait, right to vote has been provided to men but not to women.

Democracy cannot flourish if women are not considered equal to men. Democracy is based on liberty and equality for both men and women. The efforts made by the women suffrage movements and the governments, women have come out of their shell to which they were restricted earlier. Now, we see women occupying high positions both in politics and other fields. For example, Mrs. Pratibha Patil became the first woman President of India in 2007.

Constitutional Provisions

The women suffrage movements and new policies of government have opened a new era of women all over the world, and specially in India it has become instrumental in getting equality. Now, we have seen many constitutional provisions regarding equality of women.

New Inheritance Law (Hindu Succession Amendment Act, 2005). In the past, women in India did not have any share in their parental property. But Hindu Succession Amendment Act, 2005 has changed the scenario. According to this Act, now daughter, son and their mother have an equal share in land and other property. This provision besides giving equal status to women, will also provide economic help to women and a dignified life. It will prevent domestic violence also.





Let Us Recall

State: It has four elements, *i.e.*, population, definite territory, government and sovereignty.

Government: It is one of the essential elements of the state and is an organisation through which the state manifests its will, issues its commands and conducts its affairs.

Police Functions: It protect the territory from outside attacks and provide internal security.

Limited Monarchy: It is found in UK where the queen's powers are restricted and parliamentary democracy prevails.

Aristocracy: It refers to that form of government where political power is exercised by the few.

Oligarchy: Perverted form of aristocracy

Representative Government: It refers to that form of government where people elect their representatives which in turn make laws on their behalf.

Franchise or Suffrage: It is the right to express one's choice by voting.

Universal Adult Franchise: When right to vote is provided to every adult of a country.

Women Suffrage Movement: Women's struggle to gain right to vote which gathered momentum after the First World War.



A. Choose the correct answer.

- Which of the following organs of government make laws?
(a) Legislature (b) Executive
(c) Judiciary (d) Bureaucracy
- Which of the following is the best form of government?
(a) Monarchy (b) Oligarchy
(c) Democracy (d) Aristocracy
- Name the Apex Court in India.
(a) Allahabad High Court (b) Supreme Court
(c) District Court (d) Civil Court
- In which of the following countries there is limited monarchy?
(a) USA (b) Europe
(c) Britain (d) Africa
- In which form of government, the people elects their own representatives?
(a) Monarchy (b) Democracy
(c) Oligarchy (d) Aristocracy
- At state level, the legislature is called:
(a) Bicameral (b) Unicameral
(c) both (a) and (b) (d) None of these
- Real Executive at the National level is:
(a) President (b) Prime Minister
(c) Governor (d) Chief Minister



8. Which type of democracy is prevalent in India, USA and Japan?
 - (a) Direct Democracy
 - (b) Indirect Democracy
 - (c) Both (a) and (b)
 - (d) None of these
9. Name the country which is not a Republic.
 - (a) India
 - (b) USA
 - (c) UK
 - (d) None of these
10. Which of the following features represents India as a truly democratic country?
 - (a) Bicameral Legislature
 - (b) Federal form of government
 - (c) Universal Adult Franchise
 - (d) None of these
11. Women Suffrage Movements was a struggle
 - (a) to gain voting rights
 - (b) to gain property rights
 - (c) to gain rights against domestic violence
 - (d) to gain educational rights

B. Answer the following questions.

1. What is government? How is it different from the state?
2. Why do we need a government?
3. Classify different forms of government.
4. How many types of democracy you know?
5. Write about two struggle movements for the Universal Adult Suffrage.
6. Look at the sentences given below. Tick (✓) against the level of the government which they belong to:

	Central	State	Local
(a) To maintain peaceful relation with Pakistan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) To locate two handpumps in a particular area of the village	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) The Reserve Bank of India	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) To introduce a new train between New Delhi and Chennai	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) To construct a big degree college in Dispur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. Match the following.

Column A

1. Manmohan Singh
2. B.R. Ambedkar
3. Parliament
4. Pranab Mukherjee
5. Aristotle

Column B

- (a) a Greek philosopher
- (b) the President of India
- (c) the Lok Sabha and the Rajya Sabha
- (d) the Prime Minister of India
- (e) Father of the Indian Constitution

D. State whether the following statements are true or false.

1. Law and order is maintained by the police.
2. Without the government, state is an organised society.
3. Government builds roads, bridges and trains.
4. Hindu Succession Amendment Act, 2007 gives equal status to women.
5. Mrs. Pratibha Patil is the first female Prime Minister of India.

1. Individual Project

- (a) Make a list the different kinds of activities that the government does.
- (b) Collect few pictures related to Women Suffrage Movements in USA and UK.





Key Elements of the Democratic Government

Democratic governments are the most popular governments in modern times. This form of government gives freedom and equality to its citizens. The key elements of democracy are given below.

Participation

One can participate in democracy through the following methods:

1. **Elections:** It is one of the regular features of democracy. Every person has the right to vote and contest elections. People elect their leaders, who represent them in the legislature and make laws on behalf of the people. Tenure of the government is fixed, e.g. 5 years in India. People exercise their will in every election. In this way, the powers of the government are checked or controlled.
2. **Criticism of the Government:** For any small local cause or big national issue, people can criticise the government. This right can be given only in a democracy and not in any other form of government. Media also plays an important role in generating public opinion. Media includes television, newspapers, magazines, public meetings, etc. It provides all information that is happening in a democratic country and keeps the people always alert. Public meetings awaken the people and help in creating enlightened public opinion.
3. **Rallies, Strikes, Dharnas and Signature Campaigns:** These are the methods adopted by the protestors to fight injustice or to fulfil demands. They are the peaceful means to get their demands fulfilled.



Fig. 24.1: Everyone can participate in democracy through elections



Fig. 24.2: Press



Fig. 24.3: Rallies, dharnas, etc. play an important role in democracy





Fig. 24.4: Religious Conflict



Fig. 24.5: Narmada Bachao Andolan



Fig. 24.6: A scheduled caste woman with her child

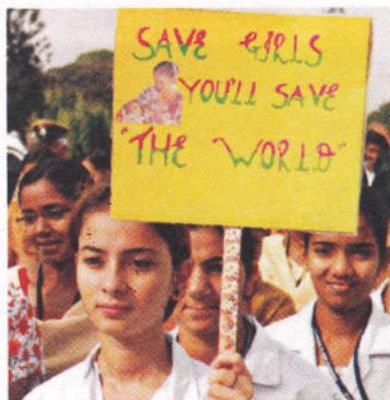


Fig. 24.7: Slogan to save girls

4. **Social Movements:** Chipko Movement against deforestation and social movement against Narmada Project aim at the rights of the indigenous people. Whenever people feel unequal or unjust, they resort to such movements. They make the other people aware about the causes of injustice. It has rightly been said that vigilance is the only price we pay for democracy. We should always be alert and keep a close eye on the functioning of democratic institutions.

Conflict Resolution

In a diverse culture such as India, there is always a possibility of conflict. Interests of different cultures, religions, economic disparities may clash and do not go along with each other.

1. **Religions:** Sometimes, religious celebrations and processions lead to conflict. Though the reason may not be immediate but deep-rooted hatred, malicious historical background or religious intolerance or insecurity. Here, the role of police is increased.

2. **River Water Disputes:**

(a) **Kaveri River water dispute.** This dispute has arisen due to the presence of two dams on the same River Kaveri. Upstream Krishna Sagar Dam in Karnataka and downstream Mettur Dam in Tamil Nadu are on Kaveri River. Mettur Dam receives water only if it is released from Krishna Sagar Dam. When both the states do not get water according to their need, it leads to conflict.

(b) **Narmada River water dispute or Narmada Bachao Andolan:** It is a movement against building a multipurpose dam over this river which will result in flood and waterlogging in an area covered by about 1,00,000 people.

In both cases, role of government is important in resolving these disputes.

Equality and Justice

The Preamble of Indian Constitution lay stress on equality and justice. So, they are the foundation stones of our democracy. Equality and justice both are interrelated. If there is no social equality due to caste system or economic equality due to economic disparity, it will lead to social and economic injustice respectively. So, justice can prevail only where equality exists. It is the sole responsibility of the government to resolve conflicts arising due to inequality or injustice. At the same time government should create an atmosphere where both equality and justice hold their roots in social, political and economic structure of society. **Our Constitution provides special privileges to scheduled caste, scheduled tribes, economically weaker sections,**



women and children to eradicate inequality. Gender disparities or inequalities lead to discrimination. In such a society, where a girl child is not treated equally, gender disparity can be removed by making strict laws by the government. It can be removed by creating social awareness among the people through campaigns, slogans and propaganda. Giving facilities to the girl students like free education or lower fee structure in government educational institutions can help them in achieving their goal.

So, the role of government has become wider in modern democracies particularly due to the popularity of the welfare functions of state activity. State, nowadays rises to the cause of upliftment of its citizens apart from providing the basic amenities to the people. Divided society breeds mutual distrust, hatred, humiliation and insecurity and hence, is a blot to democracy. Success of democracy and peaceful co-existence of different cultures depend upon both the functioning of democratic institutions of the country and by providing the key elements of democracy.



Explore!

In spite of the government's efforts, inequalities exist in the Indian society even today. Find out more about it.

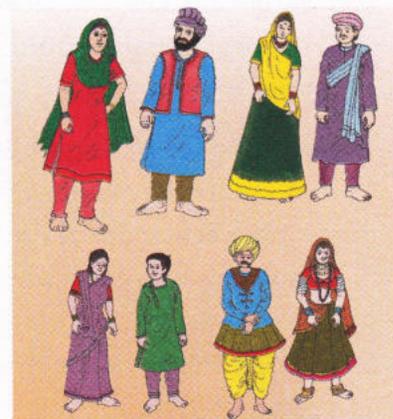


Fig. 24.8: People from different societies



Let Us Recall

Democratic Government: It is a form of government which is elected and changed by the people.

Election: It is a contest among political parties for getting public votes.

Dharnas, strikes, etc: These are the methods adopted by people to fight against injustice.

Inequality: It refers to the unequal behaviour on the basis of sex, caste, colour, creed.

Indian Constitution: Basic rules which states as to how the Government of India works.



A. Choose the correct answer.

- Point out a key element of a democratic government.

(a) written constitution	(b) participation
(c) bureaucracy	(d) Governor
- Which method of participation is common in a democracy?

(a) conflict resolution	(b) elections
(c) illegal activities	(d) writing news



3. In our country, tenure of government is fixed for:

(a) 5 years	(b) 4 years
(c) 3 years	(d) 10 years
4. Which of the following are the foundation stones of Indian Democracy?

(a) equality and justice	(b) equality and liberty
(c) equality and fraternity	(d) equality only
5. *Dharnas*, strikes, rallies are the methods adopted by the people:

(a) to fight against fundamental duties	(b) to fight against injustice
(c) to fight against equalities	(d) to fight against employment schemes

B. Answer the following questions.

1. Explain the key elements of democracy.
2. People participate in the process of government. Discuss.
3. Name any two causes of conflicts in India. How are they resolved?
4. The role of police is increased. Explain it.
5. Justice can prevail only where equality exists. Why?

C. Fill in the blanks.

1. _____ of the Indian Constitution lay stress on equality and justice.
2. Krishna Sagar Dam in _____ and _____ Dam in Tamil Nadu are on the river _____.
3. There is always a possibility of _____ in a _____ culture.
4. Sometimes religions _____ and _____ lead to conflict.
5. Gender _____ or _____ lead to discrimination.

1. Individual Project

Write a short paragraph on any recent social movement and how the conflict is resolved in such circumstances.

2. Group Activity

Discuss with your friends about the foundation stones of Indian democracy and prepare a report.



25



Panchayati Raj in India

Mahatma Gandhi, the Father of the Nation, wrote in 'Village Swaraj' in 1942 that —

“My idea of Village Swaraj is that it is a complete republic, independent of its neighbours for its own vital wants and yet interdependent for many others in which dependence is a necessity.”

He further wrote,

“The government of village will be run by a Panchayat of five persons elected annually by the adult villagers, male or female, possessing minimum prescribed qualifications..... the Panchayats will be legislature, judiciary and executive combined to operate for its year of office....”

Panchayat System During the British Rule

Democratic local government in the pre-independence era was introduced in 1882 with the establishment of municipal boards. But Village Panchayats were not encouraged because they were basically Caste Panchayats. British Government did not make much efforts for the upliftment of the villages and villagers.

Panchayat System After Independence

After independence, the government decided to take necessary steps to revive the Panchayati Raj in India. Today, we have over two lakh Panchayats in India. The Government have passed Acts to recognise the Panchayats.

1. 73rd Constitutional Amendment Act, 1992

This Act came into force on 24th April, 1993 to provide constitutional status to the Panchayati Raj institutions. Some major provisions of this Act are given below:

1. The establishment of a three-tier structure, with elected bodies at Village, Block and District (Zila) levels.
2. The recognition that the Gram Sabha constitutes a deliberative body at the village level.

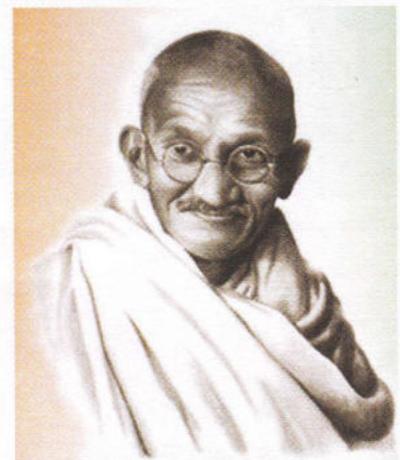


Fig. 25.1: Mahatma Gandhi



Fig. 25.2: A Village Panchayat in Punjab



Fig. 25.3: State Election Commission





Fact Bubble

The Governor of the State appoints a Election Commission and a Finance Commission.



Fig. 25.4: A Panchayat Ghar in Gujarat

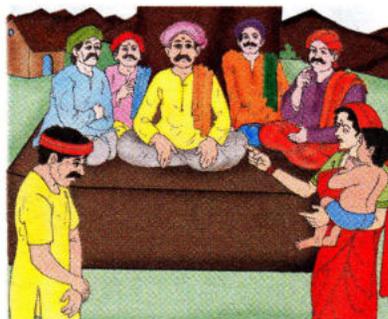


Fig. 25.5: Panch-Parmeshwar



Fig. 25.6: Gram Sabha

3. Direct elections and five-year terms for all members at all levels.
4. One-third of all seats are reserved for women and reservation for SCs and STs is proportionate to their populations.
5. State Legislatures may provide reservations for other backward groups.
6. A State Election Commission (SEC) supervises, organises and oversees Panchayat elections at all levels.
7. A State Finance Commission (SFC) reviews and revises the financial position of the Panchayats at five-year intervals.

2. The Adivasi Act, 1996

This Act extends Panchayats to the tribal areas of eight states, namely Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Maharashtra, Madhya Pradesh, Odisha and Rajasthan.

National Development Council. In 1956, the National Development Council appointed a committee which recommended:

- The three-tier system consisting of Gram Panchayat at the Village Level, Panchayat Samiti at the Block Level and Zila Parishad at the District Level.
- Provided genuine power to these institutions.
- All development programmes (social and economical) channelised through these institutions.

Firstly, the three-tier system was adopted by Rajasthan on October 2, 1959 and then followed by Andhra Pradesh, Bihar, Gujarat, Maharashtra, Himachal Pradesh, Tamil Nadu, Punjab, West Bengal and Uttar Pradesh.

THE THREE-TIER SYSTEM

1. Village Panchayat (Gram Panchayat)

Literally, Panchayat means a committee of five *Panch*, wise and respected elders chosen by the village community. **Panch-Parmeshwar** was the traditional term given to them signifying dwelling of God himself in them since they look after all the village affairs. Now 'Panchayat' is a village body of elected representatives and has a constitutional status.

Gram Sabha. At the village level, the Gram Sabha constitutes all the eligible voters within the Gram Panchayat. All adults, in a village who have attained the age of 18 years are the members of the Gram Sabha. Hence, Gram Sabha is a general assembly of villagers. It has a key role of effective functioning of Panchayats and is a place where all plans of Gram Panchayat are placed before the people.

Functions of Gram Sabha

In a Gram Sabha, people can:

1. Decide developmental work to be undertaken by the Panchayats.
2. Suggest remedial measures for economy and efficiency in the functioning of the Panchayats.
3. Question and scrutinise the decisions of the Panchayats.



4. Discuss the Annual Financial Statement of Gram Panchayats.
5. Finalise the list of people below poverty line (BPL).

Composition of Village Panchayat

Village Panchayat is divided into smaller areas called Wards. Each Ward has a representative called *Panch* or Ward Member. All Wards choose *Sarpanch* or *Pradhan* who is Panchayat President.

Functions of Village Panchayat:

1. It constructs and maintains roads, drainage system, school, buildings, etc.
2. Gram Panchayats levy and collect local taxes.
3. They implement government schemes to give employment in the village.
4. They supervise the construction and maintenance work of wells, tanks and handpumps.
5. They supervise the working of primary schools of the locality, *Patwari*, the *Lekhpal*, Police Constable, *Chowkidar*, etc.
6. They manage the village markets.
7. They provide fertilisers and seeds to the farmers.
8. They take care of sanitation and public health.
9. They take care of hospitals and veterinary hospitals.
10. Planting of trees.
11. They organise village fairs, village sports and arrange places for such sports (*Akharas*).
12. They maintain village libraries.
13. They keep a check on the misuse of the money by the Panchayats.

Sources of Income of Village Panchayat:

1. Taxes on land revenue, fares, etc.
2. Fees and other charges collected from the allocation of grazing rights and fishing rights.
3. A share in some taxes and fees collected by State Governments and Central Government.
4. Government funds received through various departments of the government.
5. Fees from the registration of sale and purchase of cattle.

Importance of Village Panchayats:

1. They help the villagers to solve their problems.
2. They give political education to illiterate and ignorant villagers and teach them to choose their representatives. First lesson of democracy starts from the Panchayati Raj.
3. They reduce the burden of State and Central Government.
4. They are the basis of what is called grass-root democracy as villagers themselves are the best judge of their needs and their solutions. They inform about their local problems to the government. It helps the government in making schemes best suited for their local needs.



Fig. 25.7: Village School



Fig. 25.8: Tree Plantation programme in village

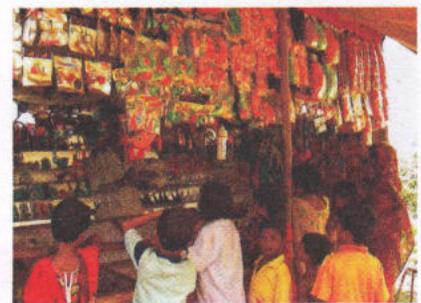


Fig. 25.9: Village Fair



Fig. 25.10: Cattle Market in village





Fig. 25.11: Watershed Development in Maharashtra



Explore!

The Indian government often awards Panchayats and their members for excellence in their work. Find out more about these awards. Why do you think they are important?



Fig. 25.12: Children learning computer in village



Fig. 25.13: In Maharashtra and other few states, some members of the Zila Parishad are elected directly by the people living in that area.

5. In Maharashtra, the Panchayat has founded ways and means of conserving water and refilling it. This is called watershed development for which the government provides money. In this state, it has also planted many trees, constructed dams and tanks.

2. The Block Samiti (Panchayat Samiti)

The Block Samiti is also called *Khand Samiti* or *Prakhand Samiti*. Its tenure is five years.

Composition of Block Samiti

1. The *Sarpanch* and *Panchs* within the Block choose their representatives of the Block Samiti.
2. All the members of the Lok Sabha and the Rajya Sabha, the Legislative Assembly and the Legislative Council (if any) elected from the Block.
3. There are two women members and four representatives of SC and ST in Block Samiti. If they are not elected, they can be appointed by the District Officer.

All these members elect a Block Chairman (Block Development Officer) or the Block Pramukh who looks after the functioning of Block Samiti. He can be removed by the members through vote of no-confidence against him. There is also a Vice-Chairman.

Functions of Block Samiti:

1. It gives advice for rural development through experts in the agricultural, veterinary and educational field to improve the quality of seeds, cattle and education in a village.
2. It arranges money from the government for the development of the village.

Sources of Income of Block Samiti:

1. Taxes on lands, houses and cattle.
2. Government assistance in the form of grants-in-aid from the State Government.

3. Zila Parishad (District Council)

It is the uppermost level or apex body of the Panchayati Raj.

Composition of Zila Parishad:

1. The Chairman of the Block Samitis in the district.
2. Members of the Lok Sabha and Rajya Sabha of the district.
3. Members of Vidhan Sabha and Vidhan Parishad (if the legislature of the state is bicameral).
4. Women representatives.
5. Representatives of SC and ST.

The members of the Zila Parishad elects its Chairman and Vice-Chairman. There is a Secretary, appointed by the government who keeps records and maintains accounts.

Functions of Zila Parishad:

1. It co-ordinates the functioning of Village Panchayat and Block Samiti.



2. It prepares developmental plans of the district and gives advice to the government.
3. It improves agricultural production and sanitation.
4. It constructs roads.
5. Government's various Five-Year Plans help the farmers to do their work conveniently. Bhakra Nangal Dam, Hirakud Project, etc. provide proper irrigation facilities to farmers.

Sources of Income of Zila Parishad:

1. Grant-in-aid by the government.
2. Rent from the property, owned by the Zila Parishad.
3. Taxes on fares.

Importance of Panchayati Raj

1. Panchayati Raj has made the concept of decentralised democracy popular as it has brought the people and the government closer to each other.
2. Local problems are solved more efficiently at the local level.
3. Rural literacy has been increased by welfare activities of the Panchayats, specially in the field of education.
4. It has brought political awakening among the illiterate, ignorant and the poor villagers. Now, villagers learn the importance of self-reliance due to great efforts of Panchayati Raj institutions.

Drawbacks of Panchayats

1. Due to non-awareness of poor and illiterate villagers, and sometimes dishonesty of Panchayati Raj institutions members, Panchayats has achieved limited success only.
2. Caste rivalries and petty politics among its members, hinder the growth of the Panchayat.
3. Sometimes, the government officials interfere in the matters of Panchayats.
4. States reserve the right to assign or withdraw functions to and from the Panchayats through executives.
5. Panchayats lack financial resources and inadequate powers of taxation.
6. The government does not give them sufficient help. As a result, they cannot do their work properly for the benefit of the people.

Efforts of The Government

The Panchayats implement their plans for the upliftment of the villages. So, it is important to improve the condition of the Panchayats. Each state has its own laws with regard to Panchayat. Training and Awareness Generation Programmes of Central Government also play a vital role. The Ministry of Rural Development provides financial assistance to the state to train and create awareness among the elected members of Panchayats.



Fig. 25.14: Bhakra Nangal Dam

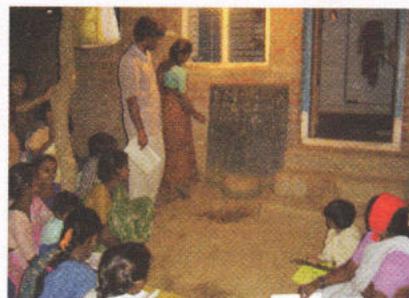


Fig. 25.15: An Adult Education Centre in village



Fig. 25.16: Nirmal Gram Puraskar – for the excellent work done in the Panchayat



Fig. 25.17: The Audit Department of the government checks the account of all local bodies.





Let Us Recall

Bicameralism: It refers to the legislature having two houses — Upper House and Lower House.

Village Swaraj: It refers to Gandhi's concept of self-rule or Panchayat System.

Panch: Member of Panchayat

Sarpanch: President (*Pradhan*) of Panchayat

BDO: It is an acronym Block Development Officer, who supervises the various works of the Block Samitis.

Zila Parishad: It is an apex body of the three-tier system of Panchayati Raj.



A. Choose the correct answer.

- Who amongst the following gave the idea of 'Village Swaraj'?
(a) Pt. Jawaharlal Nehru (b) Indira Gandhi
(c) Mahatma Gandhi (d) Sarojini Naidu
- 'Village Panchayats' were not encouraged during the pre-independence era because:
(a) they were based on caste differences
(b) they were based on religious differences
(c) they were based on economic inequalities
(d) they were based on new agricultural techniques
- The three-tier system consisted of:
(a) elected bodies at State level
(b) elected bodies at National level
(c) elected bodies at village, district and block levels
(d) elected representatives of three political parties
- Name the state who first adopted the three-tier system?
(a) Madhya Pradesh (b) Tripura
(c) Rajasthan (d) West Bengal
- According to Gandhiji, the government of the village should be headed by:
(a) executive (b) panchayat
(c) judiciary (d) Prime Minister
- Block Samiti is also known as:
(a) Zila Parishad (b) Prakhand Samiti
(c) Village Panchayat (d) District Council
- Name the apex body of Panchayati Raj.
(a) Village Panchayat (b) Legislative assemblies
(c) Block Samiti (d) Zila Parishad
- Panchayat Samiti is headed by:
(a) Sarpanch (b) President
(c) Block Development Officer (d) Health Minister



B. Answer the following questions.

1. Discuss the course of evolution of Panchayati Raj System:
(a) in ancient times (b) after independence
2. Write about the composition and functions of Panchayats.
3. What is Gram Sabha?
4. What do you mean by the three-tier system of decentralisation?
5. Enumerate the importance and shortcomings of Panchayati Raj. Write down few of its achievements in the states.
6. Write down functions and sources of income of Panchayat Samiti and Zila Parishad.
7. What is watershed development?

C. Fill in the blanks.

1. _____ Panchayats help the villagers to solve their problems.
2. The 73rd Amendment Act was passed in _____.
3. The Ministry of Rural Development provides _____ assistance to the _____ to create awareness among members of Panchayats.
4. Various five-year plans of _____ help the farmers to do their work conveniently.
5. The members of Zila Parishad elects its _____ and _____.

D. State whether the following statements are true or false.

1. The British Government had taken many steps to develop the Panchayat System in India.
2. The Adivasi Act, 1996 extends Panchayats to the tribal areas of eight states.
3. Zila Parishad develops plans for the district.
4. Local problems are solved in Village Panchayats.
5. The Panchayats implement their plans for the upliftment of the big cities.

E. Match the following.

Column A

1. Gram Sabha
2. Sarpanch
3. Zila Parishad
4. BDO
5. Watershed development

Column B

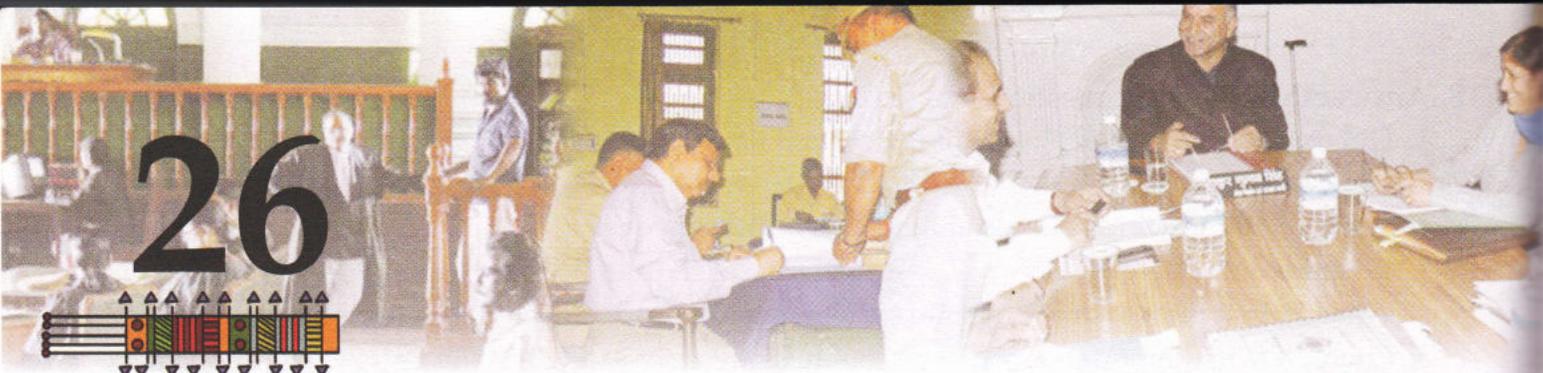
- (a) an apex body of the Panchayat Samiti
- (b) an assembly of villagers
- (c) Pradhan of Panchayat
- (d) conserving water and refilling it
- (e) Block Samiti

1. Field Trip

Visit a nearby village and observe the functioning of Village Panchayat by gathering information from the Sarpanch, Panchs or people.



26



District Administration

India is the seventh largest country and second most populous country of the world. It is quite difficult to administer it by the single Central Government. So, the powers of the government are distributed between the centre and the states. There are 28 States and 7 Union Territories. Each state is further divided into various districts. A district is further divided into subdivisions, which in turn is divided into Tehsils (Talukas). **Deputy Commissioner is the head of the district.** The subdivision (sub-district) is under the Subdivisional Magistrate and the Tehsil under a Tehsildar. The Deputy Commissioner is assisted in the work of administration with them.

District is an important unit of administration. District Administration can be defined as “the management of public affairs within a territory demarcated for some purpose.”



Fig. 26.1: If we consider agricultural land, India is second only to USA.

The Functions in the District Administration

1. Deputy Commissioner

The District Administration is headed by the Deputy Commissioner (DC) or Collector who is of IAS (Indian Administrative Services) cadre. He acts as a coordinator between the District Administration and the State Government. As a most powerful government officer in the district, he supervises all the government departments under him. He is also responsible for the social and economic development programmes across the district. He looks after the relief measures with other government officials in times of natural calamities such as, earthquake, flood, drought, etc. He can provide relief to the victims from the District Relief Fund. He gets essential help from the State Government also to meet these emergencies. He has to perform several functions such as:

- (i) To act as District Magistrate (DM) in case of Law and Order and General Administration
- (ii) To act as Revenue Collector in case of revenue matters



Fig. 26.2: Saurabh Gaur, the Collector of Srikakulam district (Andhra Pradesh) in 2014



Sr. No.	States (28)	No. of District	No. of Sub-district	Population	
				Rural	Urban
1.	Andhra Pradesh	23	1,125	5,54,01,067	2,08,08,940
2.	Arunachal Pradesh	14	149	8,70,087	2,27,881
3.	Assam	23	145	2,32,16,288	34,39,240
4.	Bihar	38	533	7,43,16,709	86,81,800
5.	Chhattisgarh	16	97	16,648,056	4,185,747
6.	Goa	2	-	677,091	677,570
7.	Gujarat	25	226	31,740,767	18,930,250
8.	Haryana	20	67	15,029,260	6,115,304
9.	Himachal Pradesh	12	109	5,482,319	595,581
10.	Jammu & Kashmir	14	59	7,627,062	2,516,638
11.	Jharkhand	22	210	20,952,088	5,933,741
12.	Karnataka	27	175	34,889,033	17,961,529
13.	Kerala	14	63	23,574,449	8,266,925
14.	Madhya Pradesh	48	259	44,380,878	15,967,145
15.	Maharashtra	35	353	55,777,647	41,100,980
16.	Manipur	9	-	5,75,968	15,90,820
17.	Meghalaya	7	32	1,864,711	19.6%
18.	Mizoram	8	25	447,567	441,006
19.	Nagaland	8	93	1,647,249	342,787
20.	Odisha	30	398	31,287,422	5,517,238
21.	Punjab	20	72	16,096,488	8,262,511
22.	Rajasthan	33	241	43,292,813	13,214,375
23.	Sikkim	4	9	480,981	59,870
24.	Tamil Nadu	30	201	34,921,681	27,483,998
25.	Tripura	4	38	2,653,453	545,750
26.	Uttar Pradesh	70	300	131,658,339	34,539,582
27.	Uttarakhand	13	49	63,10,275	21,79,074
28.	West Bengal	18	341	57,748,946	22,427,251
29.	Telengana	09	-	56,3,120,000	28,3,54,000

Table 26.1

Sr. No.	Union Territories (7)	No. of District	No. of Sub-district	Population	
				Rural	Urban
1.	Andman & Nicobar Islands	3	7	239,954	116,198
2.	Chandigarh	1	1	92,120	808,515
3.	Dadra & Nagar Haveli	1	1	170,027	50,463
4.	Daman & Diu	2	2	100,856	57,348
5.	Delhi	9	27	944,727	12,905,780
6.	Lakshadweep	1	4	33,683	26,967
7.	Puducherry (Pondicherry)	4	10	325,726	648,619

Table 26.2

DISTRICT ADMINISTRATION

DEPUTY COMMISSIONER

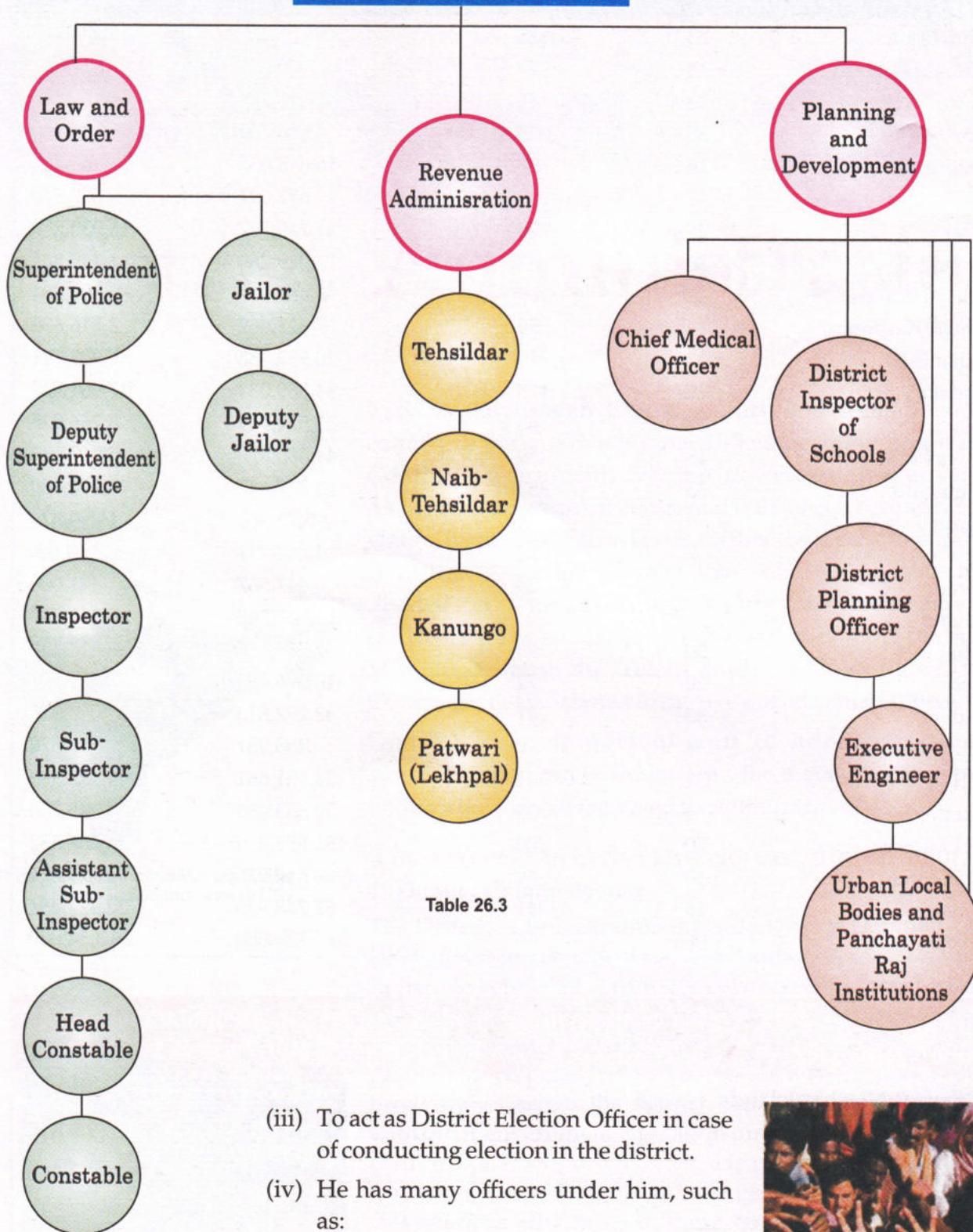


Table 26.3

(iii) To act as District Election Officer in case of conducting election in the district.

(iv) He has many officers under him, such as:

Additional Deputy Commissioner (ADC), Sub-divisional Magistrate (SDM), Extra Assistant Commissioner, Executive Magistrate (EM) and several other officers.



Fig. 26.3: Villagers crying for help after a natural calamity. At this time, role of DC is important.



2. Police Department

Public safety, the protection of the citizens and all of their rights is the prime duty of Deputy Commissioner. Deputy Commissioner while functioning as District Magistrate (DM), takes necessary assistance from the Police Department whenever there is a necessity. The top-ranked police officer of the district is the Superintendent of Police (SP).

Deputy Superintendents of Police (DSP), Inspectors, Sub-Inspectors, Station House Officers (SHOs) come under the control of the Superintendent of Police. Police Constables are always there to assist the above hierarchical positions. The Criminal Investigation Department (CID) plays an important role in the police administration. It watches the criminals secretly and collects proofs of their crimes.

In case of theft or any other mishappening, one can register the case in the police station of the area concerned. It is called the First Information Report (FIR).

3. Courts and Jails

The Deputy Commissioner is also assisted by the District and Sessions Jury. The court of the District Judge is the highest civil court in the district. It deals with cases of land, property, money, etc. The court of the Session Judge is the highest criminal court in the district. It hears the cases of theft, robbery, murder, cheating corruption, etc. The court sends criminals in the jails. There is a jail in every district. Jailor and Deputy Jailor looks after the jail and prisoners. During the British rule, the prisoners were treated harshly. But after independence, government make much efforts for the upliftment of the prisoners. Now, jails in India have taken up reformatory functions. This is all due to the efforts of police officers like **Kiran Bedi** and District Administrators. Their efforts help in training the prisoners to be better citizens when they are released out of the jail. Now, women and children are kept in the separate jails. The prisoners are not treated badly, and are trained in various works like gardening, carpentry, tailoring, etc.

4. Revenue Administration

Both revenue and excise groups of the district are concerned with the assessment and collection of taxes and duties of different kinds, e.g. land revenue, income tax, agricultural income tax, sales tax, entertainment tax, stamp duty, court fees, registration fees, excise duties both Central and State and taxes on motor vehicles. Recovery of loans to cultivators, revenue from liquor, drugs and maintenance of government treasuries are also major areas in the field of revenue administration.

5. Planning and Development

The DC is responsible for all kinds of development activities in the district under various programmes. Development departments in the district are Irrigation, Public Works Department (PWD), Health,

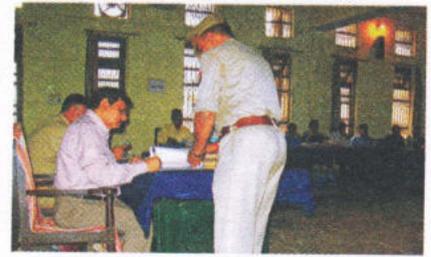


Fig. 26.4: DM of a district in UP supervising the work of police department



Fig. 26.5: A CID team collecting proof



Fig. 26.6: Court



Fig. 26.7: Jail Administration



Fig. 26.8: Revenue Administration





Fig. 26.9: The DC supervising the agricultural activity in a village



Fig. 26.10: Women as agricultural labourers. Now, they can get equal share in their parental agricultural land.



Explore!

The government appoints officers to ensure proper distribution of food and other essential commodities like kerosene, sugar, etc. Find out which agencies and officers help the government in this task.

Education and Animal Husbandary. Communication and Industries are parts of the economic group of administrative functions.

The head of PWD is an Executive Engineer and head of hospitals and dispensaries in the district is Chief Medical Officer (CMO) or popularly called District Civil Surgeon. Education department is headed by District Inspector of Schools.

6. Administration of Local Self-Government

Local self-government comprises of Municipalities, Taluka Development Boards and Village Panchayats. The functions of these are performed through Tehsildar, Naib Tehsildar, Kanungo or Village Patwari.

Role of Patwari: Patwari is also called Lekhpal or village officer. He performs the following functions:

1. He maintains and updates the records of land. Three or four villages come under him.
2. After the death of land owner, he transfers the land and enters his wife's name along with all the children in the record book. **Because, according to the law (Hindu Succession Amendment Act, 2005), sons, daughters and their mothers can get equal share in the land.**
3. He provides the information to government about the crop grown.
4. He keeps the record of collection of land revenue from the farmers.

Role of DC and Tehsildar or Revenue Officer of a District

1. DC supervises the work of Patwaris and ensures that records are in order and land revenue is collected.
2. Tehsildar hears disputes in his/her office.

This is a Khasra record given by the village Patwari, Nanakpura in a district of Punjab. This information identifies which plot of land is owned by whom.

No.	Area in hectare	Name of owner, Father or Husband's name, address	If it is rented to any other farmer, their name and rent received	Area cultivated this year			Area not cultivated fallow land	Facilities
				First crop grown	Area	Second crop grown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1.	0.75	Gurnam, Son of Harbhajan, Village Nanakpura owner	No	Maize	0.75 Hectare			
2.	3.00	Brijju, Son of Joginder, Village Nanakpura owner	No	Maize, Wheat irrigated	0.75 Hectare	1.75	0.25	Well-1 working
3.	6.00	Punjab Government Grassland	No	-				Well-1 working Grazing

Table 26.3



- Both DC and Tehsildar ensure that in times of need, the farmers get the copy of records of their land. The records are mainly needed (a) for selling and purchasing land and equipment, (b) for loan from the bank for tractor, well and fertilisers, etc.
- Students too can take caste and domicile certificates from the Tehsildar.



Fig. 26.11: Village Tehsil

Other Functions of District Administration

- Food and Civil come under District Administration.
- DC is instrumental in conducting peaceful elections in Panchayats, Block Samitis and Zila Parishad. He supervises the working of the Panchayati Raj institutions in the district. If the local bodies do not work efficiently, he has the power to dissolve it and send a report to the state government.
- To safeguard the district, any function may be exercised by the DC even if it is not well-defined..



Fig. 26.12: Panchayat Elections



Let Us Recall

District Administration: The management of public affairs within a territory demarcated for some purpose.

District Magistrate: It is the Collector or District Election Officer.

Chief Medical Officer: He/She is the head of the hospitals and dispensaries. Also known as District Civil Surgeon.

Union Public Service Commission (UPSC): It conducts IAS (Indian Administrative Service) and IPS (Indian Police Service) exams. DC belongs to IAS and SP belongs to IPS cadre.



A. Choose the correct answer.

- Who amongst the following is the head of the district?
 - Sarpanch
 - Station House Officer
 - Deputy Commissioner
 - Police Commissioner
- India is divided into:
 - 28 States and 6 Union Territories
 - 27 States and 6 Union Territories
 - 28 States and 7 Union Territories
 - 29 States and 7 Union Territories
- For an efficient revenue administration, each district is divided into which of the following?
 - Tehsils
 - States
 - Towns
 - Stations
- Who amongst the following maintains land records at the village level?
 - District Civil Surgeon
 - Deputy Collector
 - Kiran Bedi
 - Patwari



5. PWD refers to:

(a) Public Welfare Department	(b) Public Works Department
(c) Police Welfare Department	(d) Police Works Department
6. The Deputy Commissioner acts as a District Magistrate in case of

(a) Revenue matters	(b) General Administration
(c) Election matters	(d) Land issues
7. Patwari is also known as:

(a) Chief Medical Officer	(b) District Inspector of Schools
(c) Lekhpal	(d) Deputy Commissioner

B. Answer the following questions.

1. What are the functions of a Patwari ?
2. What is the work of a Tehsildar ?
3. How do police help in maintaining law and order ?
4. In what way Patwari is related to Village Panchayat ?
5. In which year Hindu Succession Amendment Act was passed? How can women be benefitted through it?
6. What are the functions of Deputy Commissioner in a district?
7. Do the farmers have right to information regarding record of their lands?

C. Fill in the blanks.

1. There are _____ and _____ courts in the districts.
2. _____ heads the Public Works Department.
3. Local self-government comprises of _____, Taluka Development Boards and Village _____.
4. The head of PWD is an _____ Engineer.
5. The Chief Medical Officer is also known as _____.
6. _____ provides the information to government about the crop grown.

D. Match the following.

Column A

1. CID
2. Chief Medical Officer
3. District Collector
4. Patwari

Column B

- (a) maintains law and order
- (b) keeps and updates the land records
- (c) head of a health department in the district
- (d) police administration

1. Individual Project

Write how the district to which you belong had functioned during any calamity, disease or Pulse Polio Programme.

2. Field Activity

Visit a village and list the public services in the village area such as: police station, post office, school, anganwadis, health centre, agricultural society for seeds and fertiliser, bank, milk society etc. Collect information on these public services and discuss with your teacher how improvements can be made in their functioning.





Urban Administration

We know that the Panchayati Raj institutions are responsible for the efficient working of every branch of rural administration. The **Municipalities** and **Municipal Corporations** perform the same function in the cities. Both of these look after the cities and makes welfare programmes for the people living in the cities and run the urban administration.

- A Municipality for a small urban area.
- A Municipal Corporation for a large urban area.

City life is different from the village life. The problems of the people living in cities and towns are quite different from those who live in villages. We know that the cities are small or big. Big cities are spread over large areas and are thickly populated. The Municipalities provide the essential services like electricity and water supply, health, education, good transport and communication, etc., in the small cities. The Municipal Corporations provide the same services in the big cities. Therefore, both Municipalities and Municipal Corporations are two sides of the same coin. Both of them are also known as **urban local government**.



Fig. 27.1: Delhi Municipal Corporation

Differences between Municipalities and Municipal Corporations

Municipalities	Municipal Corporations
<ol style="list-style-type: none"> 1. They are established in small cities having population more than 20,000. 2. Meagre resources to fulfil the requirements of area and have limited powers. 3. They have to deal with the State Government through the District Administration. 	<ol style="list-style-type: none"> 1. They are established in big cities having large population. 2. They have larger resources and powers. 3. They interact directly with the State Government.

Table 27.1





Fig. 27.2: Municipality of a City



Fig. 27.3: Mumbai Municipal Corporation



Fig. 27.4: Members of a Municipal Committee



Explore!

Ask your parents to take you to the municipal body in your area. See how garbage is collected and disposed by the municipal body. Talk to the people involved in the process. What kind of problems do they face in the task.

Municipality, Municipal Committee or Nagar Palika

Composition and Election

The number of elected members depends upon the population of the city. They are elected by the adults (who have attained 18 years of age) of the city. The city is divided into territorial constituencies called Wards. The election is direct. Article 243F provides that all the persons who are qualified to be chosen to the State Legislature shall be qualified to be chosen as the member of a Nagar Panchayat. The only difference is that a person who has attained the age of 21 years will be eligible to be a member*¹.

Duration

Its duration is five years. Period is counted from the date of its first meeting. Next elections must take place before the expiry of five years. In case it is dissolved earlier which is called Premature dissolution² then the election must take place within the six months of its dissolution. The reconstituted Municipality after premature dissolution continues only for the remaining period. But if the remaining period is less than six months, it shall not be necessary to hold elections.

Composition

1. Persons chosen by direct election form the Territorial Constituencies or Wards in the Municipal area.
2. The Legislature of a State may provide for the representation in a Municipality like:
 - (i) Persons having special knowledge or experience in Municipal Administration.
 - (ii) The members of the Lok Sabha and the Legislative Assembly of the State representing constituencies which comprise wholly or partly the Municipal area.
 - (iii) The members of the Rajya Sabha and the Legislative Council (if the Legislature is bicameral having two houses).

Reservation of Seats

1. Seats are reserved for the SCs and the STs in proportion to their population in the Municipal area.
2. Not less than one-third of the total number of seats shall be reserved for women belonging to the SC or the ST.
3. Not less than one-third (including the number of seats reserved for women belonging to the SC and ST) of the total number of seats should be reserved for women and such seats may be allotted in rotation to different constituencies in a Municipality.

*1. In case of the State Legislature the prescribed age is 25 years. (Art. 173)

2. Premature dissolution is the dissolution before the expiry of the full period of 5 years.



Officials

1. Chairperson

Offices of Presidents of the Municipalities are chosen from amongst the members belonging to SC, ST and women in rotation. The SC woman, being the sole SC member elected from a reserved seat, is entitled to the office of the President and not the SC woman elected from a general category seat.

Reservation is with reference to the category/ caste to which the person belongs and the nature of constituency from which he/she is elected.

2. Deputy Chairperson

The members of the Municipal Committee also choose Deputy Chairperson.

3. Other Officers

Chief Engineer, Sanitary Inspectors, Octroi Superintendent, Octroi Inspectors, Superintendent of Water, etc., perform the various functions in the particular Municipal area. Chief Executive Officer is the seniormost officer of the local body known as a Commissioner in the Municipality.

Functions of Municipality

Compulsory Functions

1. Public health

Health is a prime concern of the Municipalities. They take care of health and hygiene of the people. Health Officer, with the help of Sanitary Inspectors looks after health, sanitary and medical services. Vaccination and inoculation campaigns are carried out against small-pox, cholera, tuberculosis etc. They combat dreaded diseases like Dengue, Chickengunia and Polio. National Pulse Polio Programme has been successful due to the efforts of Panchayats and Municipalities. The best functioning of Municipality is observed in Surat where Plague was spread in 1994. Since Plague spreads through air, it took the form of an epidemic. People left their home town. But now, Surat is ranked second clean city in India though it was very dirty earlier. The first in the category is Chandigarh.

2. Public Education

Municipalities open schools, public libraries and museums. The Education Officer looks after the primary education in the city.



Fig. 27.5: Municipal Administration



Fig. 27.6: A meeting of the Municipality



Fig. 27.7: Health department provides health services



Fig. 27.8: National Pulse Polio Programme



Fig. 27.9: School





Fig. 27.10: Fire Brigade



Fig. 27.11: Construction of Roads



Fig. 27.12: Anganwadi



Fig. 27.13: Water Supply

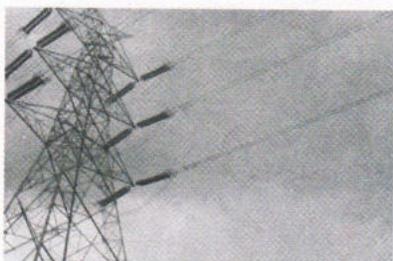


Fig. 27.14: Electricity Supply

3. Public Security

Public Security is ensured through—

- (i) Checking very old houses, buildings and declaring them unsafe and giving advice to safeguard people from any mishappening due to their fall
- (ii) Checking the quality of eatables and food adulteration
- (iii) An arrangement of fire brigade
- (iv) Providing safe drinking water

4. Other Functions

- (i) Construction and maintenance of roads and streets
- (ii) Planting of trees
- (iii) Providing good electricity supply
- (iv) Construction of public urinals (e.g., Sulabh Shauchalayas in Delhi)
- (v) Collection of octroi duty or terminal tax on goods through Octroi Inspector

B. Voluntary Functions

These functions are optional and depend upon the budget available with the Municipality. They can be:

- (i) Constructing and maintaining children's homes, orphanages, night shelters, rest houses, old-age homes. Anganwadi and Balwadis are arranged by few Municipalities
- (ii) Developing parks, gardens, picnic resorts, museum, etc.
- (iii) Arranging transport facilities for fulfilling local needs

Sources of Income of Municipality

1. Taxes on property such as house tax, tax on shops and lands
2. Tax on vehicles
3. Octroi duty on goods brought into the city or taken out of it
4. Income from water and electricity supply to houses and factories
5. Grants-in-aid and loans from the State Government

Municipal Corporation or Nagar Nigam

It is also an elected body with the same provisions as Municipalities except that Municipal Corporation is in the large city. Elected representatives are called Councillors who elect some other members who are respected citizens of the Municipal area. They are called Aldermen.

Councillors also elect a Mayor and a Deputy Mayor. The Mayor, with the help of the Municipal officers, looks after the corporation work. The Deputy Mayor performs this duty in the absence of the Mayor.



How to Address Our Local Problems?

We can go to the Ward Councillor to make him aware of our problems like poor roads, sanitation, garbage, shortage of water and electricity. He will hear our protest as we are the people who elect him. He will inform the problems to the Commissioner who in turn will send the concerned person to visit the place, e.g. Sanitation Engineer to solve sanitary problem like collection of garbage, Civil Engineer for reconstructing broken roads. So, with the collective efforts of people of the Municipal area, Ward Councillor, concerned engineer and Commissioner, the problem can be solved. But the responsibility in many cases such as collection of garbage lies within the sphere of our duty towards keeping the place clean. This we can do by keeping dustbin in our houses, instead of throwing garbage in the open areas, we should collect it and make an arrangement to throw it through proper channel. By doing this, we reduce the burden of Municipality and become good citizens who are aware of rights and duties because both are interrelated and two sides of the same coin.



Fig. 27.15: Refuse Collecting Vans



Fig. 27.16: Refuse Collecting Trolleys



Let Us Recall

Municipalities and Municipal Corporations: These are the institutions of local self-government in urban areas. If the area is big, there is Municipal Corporation.

Municipal area: It means the territorial area of a Municipality.

Metropolitan area: It is an area having population of ten lakhs or more, having one or more districts and two or more Municipalities or Panchayats.

Transitional area: It is an area under transition from a rural to an urban area.

Industrial township: It is created when a rural area is made as an administrative unit.

Wards: Territorial constituencies of local self-government

Premature dissolution: It means dissolution before the completion of a specified period.



A. Choose the correct answer.

1. Who is responsible for efficient working in a big city?
(a) Panchayati Raj Institutions
(b) Municipal Corporation
(c) Municipality
(d) Health Department
2. Municipality is also called:
(a) Nagar Nigam
(b) Nagar Palika
(c) Municipal Corporation
(d) hospital



3. Which of the following is the source of income of a Municipality?
 - (a) rent from the property owned by the Zila Parishad
 - (b) taxes on vehicles
 - (c) both (a) and (b)
 - (d) none of these
4. What is the prime concern of the Municipality?
 - (a) health
 - (b) public Security
 - (c) construction of roads
 - (d) good electricity supply
5. Territorial constituencies are also known as:
 - (a) Districts
 - (b) Wards
 - (c) Towns
 - (d) Tehsils
6. The members of the Municipal Committee elect:
 - (a) Block Division Officer
 - (b) Station House Officer
 - (c) Chairperson & Deputy Chairperson
 - (d) Tehsildar
7. The Deputy Mayor looks after the corporation work in the absence of:
 - (a) Deputy Commissioners
 - (b) Collector
 - (c) Councillor
 - (d) Mayor

B. Answer the following questions.

1. Write down the differences between a Municipality and a Municipal Corporation.
2. What are the functions of the Municipality?
3. What are the sources of income of the Municipal Corporation?
4. Who are called Aldermen?
5. How can we address our local problems?

C. Fill in the blanks.

1. _____ and _____ Corporations are two main types of local urban government.
2. _____ of the seats are reserved for women belonging to the SC and ST in the Municipalities.
3. _____ Officer, with the help of _____ Inspectors looks after the health of people.
4. The _____ Officer looks after the _____ education of children in the city.
5. Everybody can go to the Ward _____ to make him aware of our _____ like sanitation, electricity, shortage of water etc.

D. State whether the following statements are true or false.

1. A Municipal Corporation performs its function in big cities.
2. Elected members of the Municipal Committee are called engineers.
3. Municipal Corporations directly interact with the State Government.
4. We can approach Education Officer for our sanitary problems.
5. The Mayor, with the help of Municipal officers, looks after the corporation work.



E. Match the following.

Column A

1. Metropolitan area
2. Councillors
3. Small urban area
4. Executive officer
5. Large urban area

Column B

- (a) Commissioner in Municipality
- (b) Municipal Corporation
- (c) Population of ten lakhs or more
- (d) Elect Mayor
- (e) Municipality

1. Project Work

- (a) Observe the election of Councillors and their functioning and write an article.
- (b) Look at these two pictures given below. What is wrong in the picture 1 you see? What according to you is the best method of the collection and disposal of the garbage? See the possibilities of recycling. Why should we not use polythene bags for throwing the garbage? Prepare a report.



Fig. 27.17: Accumulation of garbage



Fig. 27.18: Recycling





Rural Livelihoods

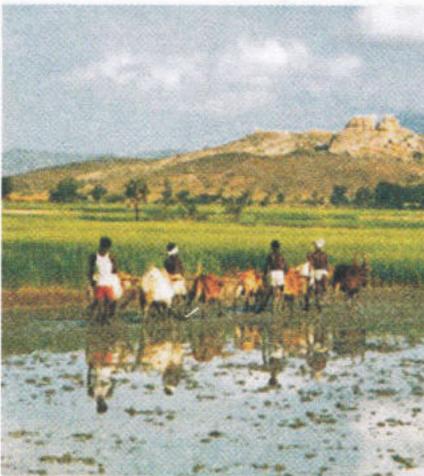


Fig. 28.1: Landless agricultural labourers



Fig. 28.2: A labourer spraying pesticides



Fig. 28.3: Family of a landless agricultural labourer

We all have to earn for our living and for that we have to work. The majority of India's population lives in the rural areas. In these areas, people are involved in two types of work: non-agricultural activities and agricultural activities.

Agricultural Activities

Now over 50% population of India are dependent on agriculture. It is the main occupation of the people in the village. There are different types of people connected with the agriculture, directly or indirectly.

1. Landless agricultural labourers

They are employed during the agricultural seasons, for example, during preparing the land, sowing, weeding and harvesting, so they are called at regular intervals whenever there is a need. They do not have land of their own. They have to do 7 to 8 hours of physical work daily. The owner of the land supervises their activities. Since landless agricultural labourers do not have regular work throughout the year, they are like daily wage earners.

Agriculture-related labourers

Such labourers do the work like spraying pesticides, separating weeds, collecting the crops and filling the husk on the tractors, trolleys or bullock carts.

Hardships of Landless Agricultural Labourers

- 1. Difficult life:** These landless agricultural labourers spend a very tough life. They have to do a lot of work for their household activities as well, like collecting wood for cooking food, arranging water for their daily needs etc. They also have to strive hard even for their primary basic needs.
- 2. Caught in debt:** They do not have savings because it is already difficult to make both the ends meet. In case of any emergency, like illness or marriage, they have to take loans or sell their cattle or jewellery. Sometimes, to pay back their loans, they have to sell their valuables.



3. **Travel long distances:** During the season, when they are unemployed, they have to travel long distances, leave their homes in search of another temporary work.

2. Small Farmers

They own a very small piece of land between 1 and 2 hectares. Middle farmers own between 2 and 5 hectares. They do all the agricultural work themselves from preparing the land and sowing the seeds to harvesting crop. During harvesting season if they and their family members are unable to do the whole work themselves, they take the help of other small landowners and give help in return in case of a need.

Hardships of Small Farmers

1. **Division of the crop:** Such small landowners are easily exploited if they are unable to buy good quality seeds. They have to borrow the seeds from the traders and feel committed to give a major chunk of their crop to the traders at a cheaper rate. The crop is usually divided into following three parts:

- One part to the trader in return of the quality seeds they have borrowed from him.
- One part for their family needs.
- Rest, they sell in the market.

2. **Insufficient Income:** Their needs for the whole year are not fulfilled and they have to search part-time work like working in a rice mill, whitewashing or doing some labour work, e.g., construction of the buildings or selling of milk to the nearby city where they get a handsome rate. They sell honey or *tendu* or *mahua* leaves.

3. **Unpredictable crop:**

- Floods spoil the crop
- Sometimes, seeds do not give the quality of crop expected
- Monsoon may ditch the expectations of the farmers. They may not have enough rainfall or rain may come at the time when it is not required and the full grown crop gets spoiled.

4. **Pests:** Pests spoil the crop in bulk.

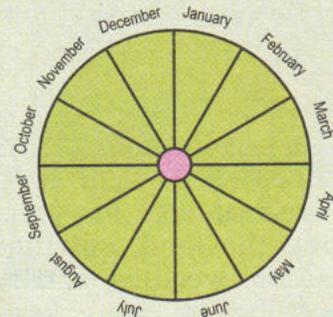
5. **Accumulation of debt:** The above circumstances may lead to their inability to pay back their loan in time. In the due course, loan gets accumulated and they remain in a permanent debt. Many farmers in the recent past have either sold off their small land or have committed suicide along with their small children due to helplessness.

3. Big Farmers

They may own land above 5 hectares. Their life is better than the above two types of farmers. They arrange seeds of better quality and at the maturity of the crop, sell it to the trader of a nearby city. They



Explore!



Ask a farmer about the transplantation, weeding and harvesting periods of paddy. Show the information on this diagram. Now, based on the diagram would you say that farmer earns money throughout the year?



Fig. 28.4: A small farmer



Fig. 28.5: Homeless farmer families

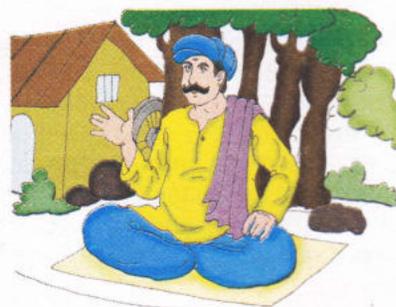


Fig. 28.6: A big farmer



Comparison between landless labourers, small farmers and big farmers

Landless Labourers	Small Farmers	Big Farmers
1. They do not own any land.	1. They have very small piece of land, <i>i.e.</i> 1 or 2 hectares.	1. They are rich and own big piece of land which is above 5 hectares.
2. They work only on other landowner's field and do seasonal work like preparing the land, sowing of seeds, weeding and harvesting the crops. Rest of the time they do not have any work. So, they are not employed throughout the year.	2. They work on their own land. In times of need they take the help of other small farmers and give help in return but are unable to hire agricultural labourers. They are also seasonally employed.	2. They usually do not work on their own fields. They give their land on lease or keep labourers. They sell their crop to the traders and with this profit, they start their own business and expand the sources of income. Harvest does affect their income but life does not come to a stand still.
3. They have to search any other part-time job for livelihood. Their daily life is hard as they have to do lots of physical work in their homes as well like collecting firewoods and arranging water. They borrow money which is sometimes very difficult to pay back.	3. They too have to do part-time job and collect wood from the forests and arrange water for domestic needs.	3. They fulfil their daily requirements comfortably. They are able to repay their loan instalment regularly because they are employed throughout the year either through the farm land or through the business they own. They avail the benefits of good schooling and medical facility. Both awareness and availability of resources give them a dignified life.

Table 28.1



Explore!

Cooperative and rural banks have been set up in villages by the government to provide loans to farmers so that they can buy better seeds, pesticides and fertilizers to improve this agricultural yield. Find out what cooperative and rural banks do to help the villagers.

may have to do less physical labour and can earn a handsome income from the produce of their land. Side by side, they start another business like opening of a shop of fertilisers and seeds, or brick kiln, own a rice mill or start a money lending trading.

Fishing

Fishing is the main profession in the coastal areas. Fisherman go early in the morning sometimes at midnight into the sea on the boats. They have to struggle for their lives during the storms and high tides. In the evening, they come back and repair their broken nets. Very few fishermen can own a **catamaran** by taking loan from the bank. Catamaran helps them to go deep into the sea. They collectively do fishing through it and the catch is shared by all.





Fig. 28.7: Fishing



Fig. 28.8: Selling fish



Fig. 28.9: Blacksmith

Difference between men in fishing profession and men in other profession:

Men in fishing profession	Men in other professions
Their work is seasonal and they have to depend on the meagre savings of income from seasonal fishing. Their life is hard and risky.	Persons like blacksmiths, carpenters, barbers, cobblers and potters are employed throughout the year, but their income is very small to sustain.

Terrace Farming

It refers to a farming in which the land on the slope of the hill is cultivated. It is divided into flat plots and carved out in steps. Water is retained in the plots by raising the sides of the plots. In Nagaland, rice is grown through terrace farming. Farmers work in their own individual fields or work collectively in other's farms. Division of groups and responsibility of each group to clean the hill and removing the weeds is remarkable. This is a proof that even in hardships and adverse conditions, people do hard work, do collective work and the results are beyond anyone's imagination. To such farmers and to help the farmers in need, government provides help through its liberal policies of loans. It may create wonders and may improve the lot of village community.



Fig. 28.10: Terrace farming



Let Us Recall

Paddy: Rice seedlings

Terrace farming: It is a type of framing done in some hilly areas in which land is made flat, divided into plots and carved into steps.

Catamaran: Boat with two hulls side by side



A. Choose the correct answer.

- Which of the following refers to the hardship of landless agricultural labourers?
 - Sufficient income
 - Unpredictable crop
 - Caught in debt
 - None of these



2. Which of the following statements is suitable for small farmers?
 - (a) They are owners of many lands.
 - (b) They fulfil their daily requirements comfortably.
 - (c) They have very small piece of land.
 - (d) They arrange seeds of better quality.
3. Point out the main profession in coastal areas.
 - (a) Fishing
 - (b) Teaching
 - (c) Agriculture
 - (d) Mining
4. Terrace farming refers to:
 - (a) farming in which land is cultivated
 - (b) farming in which land on the slope of a hill is cultivated
 - (c) farming in which fruits and vegetables are cultivated
 - (d) farming in which rice seedling is done
5. In Nagaland, which of the following crops is cultivated through terrace farming?
 - (a) Rice
 - (b) Barley
 - (c) Wheat
 - (d) Maize
6. The owner of a land above five hectares is called:
 - (a) a small farmer
 - (b) a blacksmith
 - (c) a fisherman
 - (d) a big farmer

B. Answer the following questions.

1. What are the different types of sources of livelihood in the village?
2. How many types of farmers are there in the village?
3. Can government help in improving the life of the farmers? How?
4. Write down the cause of the difference of economic status between the types of farmers themselves and between the other craftsmen and fishermen. Is it a case of discrimination, stereotype or economic inequality? Relate your answer with the consequences of this difference in the way they lead their lives, educate their children, have medical facility and fulfil other daily requirements.
5. What are the hardships faced by the farmers in rural areas?

C. Fill in the blanks.

1. Chief occupation of the villagers is _____.
2. _____ is the main profession in the coastal areas.
3. Farming done on hilly areas is called _____.
4. Landless _____ labourers are employed during the agricultural seasons.
5. The life of a fisherman is _____ and _____.

D. State whether the following statements are true or false.

1. Landless agricultural workers have full-time employment.
2. Fishermen work during the breeding season of fish.
3. Terrace farming is very successful in Nagaland.
4. At present, about 98% population of India are dependent on agriculture.
5. The landless agricultural labourers spend a very tough life.



E. Match the following.

Column A

1. Landless agricultural labourers work on
2. Small farmers have land of
3. Catamaran is a
4. Floods and pests
5. Over 50% population of India

Column B

- (a) boat for fishing
- (b) spoil the crops
- (c) other's fields
- (d) are dependent on agriculture
- (e) 1 to 2 hectares

1. Field Trip

Go to a village. Draw or collect some pictures that you have seen people doing. Write few sentences about each of them in your notebook.

2. Project Work

Suppose your friend Manmohan is a member of a fishing family and he is discussing whether to take a loan from the co-operative bank for an engine. What would he say? Prepare a report.

3. Group Discussion

Often poor agricultural labourers do not have access to good schools, good medical facilities, etc. The difference between them and rich farmers is one of inequality. Discuss in your class that is it a fair situation? What improvements should be done?





Urban Livelihoods

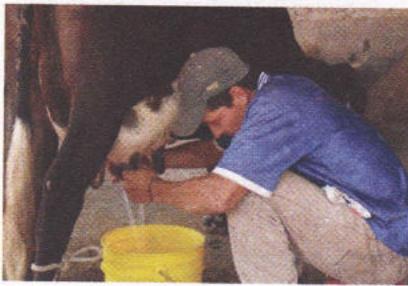


Fig. 29.1: Dairy Farming



Fig. 29.2: Textile Industry



Fig. 29.3: Teaching

Urban life is different from the rural life. People living in the urban areas adopt different types of occupations for their livelihoods. Urban livelihood can broadly be divided into three groups of occupations:

- 1. Primary Occupations:** When natural resources provide goods and people utilise them, it is called primary occupations, e.g. agriculture, cattle breeding, dairy farming, poultry farming, mining, forestry, etc.
- 2. Secondary Occupations:** In this, people deal with the processing of raw materials like agricultural produce, fowl, fish, and other sea animals. This is done manually or through machines. Textile industry transforms cotton, wool or jute into clothes. Metal, like iron which is extracted from an iron ore is transformed into tools, machines or furniture. Paper is made from the wood. Leather industry makes the leather products from the skin of dead animals. Bakeries make the eatable products from the agricultural produce like wheat, barley, maize, etc.
- 3. Tertiary Occupations:** In this, people offer their services such as teaching, banking, post offices, railways, etc., are known as tertiary producers. No goods are produced, but this kind of producers play an important role in the present society.

More precisely, on the basis of above occupations, the livelihood in urban area can be categorised as under:

Area-wise Division of the Urban People

A. People on Roads and Streets

Florists, fruit and vegetable vendors, rickshaw pullers or mobile carpenters, people who whitewash or casual labourers, who load or unload the goods in trucks, fall in this category.



The hardships of the people are as follows:

1. They work on their own and not employed. They spend a very tough life. They have to do a lot of hard work for their livelihood, but they are unable to fulfil the needs of their family. They do not have any savings. Often, people who travel to city leaving their family in the village, are forced to set up their homes on the street. After a lot of physical work during the day, they cook their meals at night.
2. Hawkers or street vendors are those who work through one colony to another, one street to another. They provide benefit to the local people. But sometimes, their entry is restricted due to security reasons.
3. They do not have permanent structures to work like shops. Rather, their shops are temporary structures under some tree or on a mat or plastic sheet on the side of the road to give it a look of mini shop. But the police can ask them to wind up their so-called mini shops and vacate the place which is considered to be an unauthorised area.

B. People in the Market

We see so many shops in the market, *e.g.*, grocery shops, toy shops, shops of clothes and footwears, stationery shops, cookware shops, shops of electrical items, etc. In many cities, shopping malls have been opened.

Work-wise Division Of The People

A. Business Activities

In the market, people are engaged in various business activities. In the market, we get nearly all the utility items at one place. We get embroidery work of Lucknow, stones of Hyderabad, tie and dye of Rajasthan and synthetic clothes of Surat at one place. This has been made possible due to these traders who bring the famous products and products of handicrafts from far-off places to the urban areas. We can see big decorated showrooms of readymade garments in the market.

Mode of business: Business people are self-employed. They advertise through newspapers, by giving commercials in the television. Daily, we see pamphlets of advertisements of different products or services.

Property dealers are the people who are called middlemen between the sellers and the buyers. They have their share in providing services to the people.

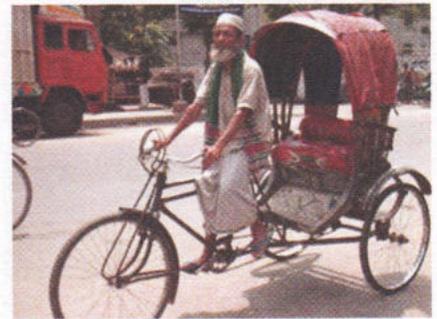


Fig. 29.4: Rickshaw puller



Fig. 29.5: Temporary Shops



Fig. 29.6: Shopping Mall



Fig. 29.7: Garment Showroom

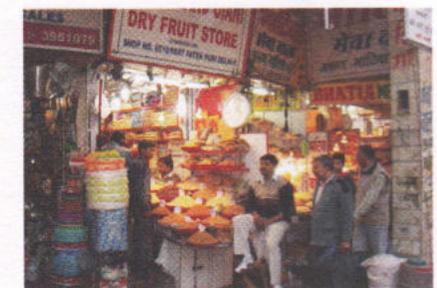


Fig. 29.8: Business people in market





Fig. 29.9: Labours



Fig. 29.10: A Call Centre



Fig. 29.11: Casual Workers



Fig. 29.12: Permanent workers



Fig. 29.13: Advertisement Hoardings

Business people are not employed by anyone and most of them own their shops for which they have to get a licence from the Municipal Committee or Corporation whatever they have in their area. The Municipality of the area decides the day of local holiday in a week, e.g., Sunday or any other day.

B. Factory Workshop Area

Factories are usually made in commercial areas which are away from the residential areas. Workers can be categorised as under:

1. **Daily wage workers:** They can be located at the site of a labour chowk in many cities. We can see them sitting or standing in groups waiting for their turn to be hired. They are temporary labourers who work as helpers to masons, load or unload trucks, dig a construction site, pipeline or telephone cables line or build roads.
2. **Factory workers:** They are workers working in the factory or industry. They can be tailors or dress designers in the garment factory or boutique. Dress designers guide the tailors. Factory workers mostly work in shifts.

C. Call Centre Officials

It is a new form of employment. A call centre is an office that deals with problems that customers and consumers have regarding the goods purchased and services like banking, ticket booking, etc. There are so many call centres established in the urban areas. Now, India has become a main centre for both Indian and foreign companies.

In offices or industries, workers may be casual or permanent.

1. Casual workers

- (a) They have no permanent status of their job.
- (b) No medical or pension facility.
- (c) There is no personal security of misbehaviour by the employer.
- (d) Long working hours and night shifts are not good for their health.
- (e) They cannot complain about their pay or working condition as they cannot take the risk of their job.

2. **Permanent workers:** There are so many factories and offices established in the urban areas. Here, many people have regular employment. They get regular salary and are known as permanent workers. So, they get the other benefits also which a government employee gets, such as, following:

- (a) **Holidays:** Employee is provided with holidays on Sundays, Gazetted or State holidays and other annual leaves.
- (b) **Medical facility:** The company to which one belongs, bears medical expenses or part of it during the illness of the employees or their dependents.
- (c) **Pension facility:** Pension is the monthly income of an employee which he gets after retirement.



One of the peculiar features of the livelihood in urban life that we may not meet the people directly with whom we are associated with or the product from whom we are purchasing. But still manufacturers, middlemen, executives, managers, salesmen and the buyers exist together. Business activity is based on the techniques of advertisements and services provided.



Explore!

Ask your parents to take you to a construction site. Talk to the labourers. Try and find out why they shifted to the city to work. Ask them questions, such as— Is the life better in city? Do they earn more here? Do they earn enough to send their children to school?



Let Us Recall

Urban Livelihood: It refers to different occupations of people in urban areas.

Labour Chowk: It is a place where casual workers gather for their turn to be picked up for daily wage work.

Casual Worker: A worker who has no permanent or regular employment.

Call Centre: It is an office that deals with problems that customers and consumers have regarding goods purchased and services like ticketing, banking, etc.

Pension: Monthly income after retirement



A. Choose the correct answer.

- Urban livelihood can be classified into:
 - primary occupations
 - secondary occupation
 - tertiary occupations
 - all of these
- In which category, people in the market are classified?
 - area-wise division of urban people
 - work-wise division of urban people
 - primary activities
 - tertiary activities
- People working in the offices can be categorised into:
 - daily wage workers and factory workers
 - permanent and casual workers
 - both (a) and (b)
 - none of these
- Which of the following benefits are provided to a permanent worker of a private company?
 - entertainment benefits
 - holidays and pension facilities
 - discount on household goods
 - discount on travelling
- Varun is a worker and is seen standing at Labour Chowk. He will be called:
 - casual worker
 - daily wage worker
 - factory worker
 - permanent worker



B. Answer the following questions.

1. What is meant by primary, secondary and tertiary occupations?
2. Define the area-wise and work-wise urban occupation.
3. What is a call centre and what are the working conditions there?
4. What sort of facilities do regular or permanent workers of office get?
5. Differentiate between a casual worker and a permanent worker.
6. What is meant by self-employment, regular employment and casual employment?

C. Fill in the blanks.

1. Teaching is a _____ occupation.
2. An example of primary occupation is _____.
3. _____ is the modern means of selling the products by the companies.
4. There are many shops in the _____.

D. State whether the following statements are true or false.

1. Urban life is different from rural life.
2. People on the streets like florists, vendors, rickshaw pullers do not have job security.
3. In tertiary occupations, people offer their services such as railways, banking, etc.
4. Life in call centre is easy.
5. Factories are usually made in residential areas.

1. Field Trip

Visit a bank or a post office in an urban area. Watch the different counters and nature of work of employees. Write all about it in your notebook.

2. Group Discussion/Activity

Complete the following table and discuss the differences of their work in the class.

Name	Place of work	Earnings	Security of work	Benefits received	Work on their own or employed
Ramu Barber					
Anju			No security		
Ruby	Office	₹ 20,000 p.m.			
Anadi					Work on their own

