

# Chapter-6

## Major Landforms of the Earth

# Introduction

The surface of the Earth is not the same everywhere. In some places it is flat and elevated in other places. These natural features of the Earth's surface are called **landforms**. Landforms are the results of two opposing forces. The forces that uplift areas of the Earth's crust are called **Internal forces**. Forces that wear down or rebuild the landforms formed on the Earth are called **external forces**. They have two components – erosion and deposition. These processes are carried out by running water, moving ice, winds and sea waves.

The Earth has a variety of landforms. On the basis of their height, they are classified into mountains, plains and plateaus.

# Mountain: Landforms of High Relief

A hill is a landform that extends above a surrounding area. It is often, smaller in height. A mountain is a landform which is higher and steeper than a hill. It rises high above the surrounding terrain in a limited area. Mountains have a broad base, narrow peaks, steep slopes and deep valleys. Some mountains constitute a single isolated mountain tops, or peaks, like Mount Kilimanjaro in Africa. Some mountains are arranged in a line and are known as mountain ranges, like the jura mountain ranges in Europe. A whole series of long narrow range that stretch from hundreds or even thousands of miles is called a mountain chain. The Himalayas in Asia, the Andes in South America and the Rockies in North America are examples of mountain chains.

# Fold Mountains

There are three types of mountains. They are fold mountain, block mountain and volcanic mountain.

Fold mountains are mountains formed because of the compression of the Earth's crust. They are formed by the folding of rock layers into a series of waves like anticlines ( upfold) and synclines ( down folds) without breaking the rock layers. The fold mountains which have formed recently are known as the **young fold mountains**, and the fold mountains which had formed earlier than these are known as **old fold mountains**. The Rockies of North America, the Himalayas in Asia and the Atlas Mountains are examples of young fold mountains. The Urals in Russia, the Appalachians in North America and the Aravalli in India are examples of some old fold mountains.

# Block Mountains

Block mountains are formed by the tensational forces which cause cracks or faults on the Earth's crust.

These faults can break the crust into blocks. When these blocks are raised, block mountains are formed.

Block mountains have flat tops and slopes.

Sometimes a section of the crust rises above or subsides under the surrounding area. When it rises above, block mountains are formed, when it subsides, a rift valley is formed. Block mountains are also known as horsts. Rift valleys are also known as grabens. For example, the Vindhya and Satpura are block mountains and the river Narmada flows through the resultant rift valley.

# Volcanic Mountains

Volcanic mountains are formed by volcanic activity. Materials like cinder, ash, dust and liquid mud accumulate and solidify to form volcanic mountains. Some examples of volcanic mountains are Mauna Kea and Mauna Loa in Hawaii, Mount Vesuvius in Italy, Mount Fujiyama in Japan and Mount Kilimanjaro in Tanzania.

# Importance of Mountains

- Mountains act as barriers from winds. They influence the climate by causing rainfall.
- Glaciers found in the mountains are a source of perennial rivers. For example, the river Ganga originates from the Gangotri glacier. These rivers are navigable and provide water for irrigation and general hydroelectricity.
- Mountain slopes are ideal for rearing cattle due to the presence of green pastures. The dense vegetation of mountain is home to many animals and birds. Large reserves of timber and medicines are also found in these forest.
- Mountainous regions are terraced for cultivating a variety of crops such as tea, fruits and rice.
- Mountains are also known for scenic beauty. They make for an ideal tourist destination.

# Plateau: Landform of Medium Relief

Plateaus are highlands, with a broad and flat surface. They are sometimes referred to as **tablelands**. They are abruptly above the surrounding plain. Most of them cover thousands of square kilometers in area. Some plateaus are quiet high but they do not have high pointed peaks like the mountains. The Tibetan plateau is the highest plateau of the world. The Deccan Plateau in India and Ethiopian Plateau in Africa were formed from solidified volcanic lava. The Bolivian Plateau in South America is located in between the Andes.



# Importance of Plateaus

- Plateaus made up of old rocks have rich material deposits. Mining is an important occupation of the people living in the plateau of Australia and Chhota Nagpur plateau of India.
- Depending on the rainfall that the plateau receives, farming is possible in the plateaus.
- In the plateaus, there maybe waterfalls as the rivers fall from great heights. This can be used to generate electricity.
- Lava plateaus are rich in black soil, that is fertile and good for cultivation.
- Most plateaus are tourist spots.

# Plains: Landforms of Low Relief

A plain is a flat and relatively low-lying land. Some are extremely flat while some are slightly rolling or wavy. Plains are mainly formed by rivers flowing down mountains. While flowing down a slope, rivers erode and transport a lot of materials, which they deposit on their course to form plains. The Northern Plains of India and the Yangtze Plain of China were formed by deposition of rivers. Plains may be formed by deposition of lava flow too, for example, the Hell's Half Acre Lava Field in Idaho, United States. Sometimes, rivers deepen and widen the valleys they form, until in due course of time the entire area is reduced to a low surface of a plain, for example, the Nullarbor Plain in Australia.

# Importance of Plains

Plains make up one-third of the world's land, but support three-fourths of the world's population. This is because they have the most favorable conditions for human settlement.

- Plains are fertile and the climate is suitable for agriculture.
- The flat land makes transportation easy.
- The rivers flow slowly over the plains and can be used for navigation.

End of the Chapter.