TENDAR HEART HIGH SCHOOL

Secton 33 B, Chandigarh

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Sublect: Geography | Date: 8/7/24

Chapter 5

Landforms of the Earth

Good Morning Students,

In this lesson we will study about Landforms of the Earth, Mountains - its types and significance, Plateaus - its types and significance, Plains - its types and significance.

(1) Landforms of the Earth:

→ Landforms are the features on the Earth's surface that makes up the terrain such as mountains, valley, plains, Plateaus, Delta, ocean basins etc.

→ The landforms are characterised by their physical attributes such as Elevation, slope, rock structure, soil type etc.

→ Thus, landforms are also categorised by the processes that create them.

(2) Mountains

→ A portion of land surface that rises abruptly to a summit as an single feature or a chain is referred as mountain.

→ It shows evidences of the forces that have folded, faulted or deformed large section of Earth's crust.

* Orogenesis is the process of Mountain Building that takes place at convergent plate margin.
* Orogeny is referred as the period of Mountain Building.

(3) Types of Mountains

→ On the mode of formation, mountains are classified into three types:

(A) Fold Mountains:

→ These mountains are formed where two or more tectonic plates are pushed together.

→ The region where the tectonic plates collides, there the rocks and debris that are present gets warped and folded to form mountains.

→ There are two types of fold mountains:-

(i) Young fold mountains:

→ They are formed recently in Alpine mountain building period.

→ They have steep slopes and deep valleys.

→ They have sharp pointed snow covered peaks.

→ They have complex folding and faulting of rock layers.

→ Volcanic activities are common in these mountains.

→ They are much higher than old fold mountains.

→ They have very rough topography

→ They have parallel ranges.

→ They are continuously growing in height

→ These mountains have many intermontane plateaus located in between their ranges.
eg- Anatolia Plateau in Turkey, Ladakh Plateau in India, Tibetan Plateau in Tibet etc.

→ Examples of these mountains are Himalayas, Alps, Rockies, Andes etc

(ii) Old fold mountains:

→ They are formed long ago in caledonian and Hercynian mountain building period.

→ They have gentle slopes.

→ They have round tops and sculptured domes.

→ They are highly eroded by the agents of gradation.

→ They are lower than the young folded mountains.

→ Examples of these type of mountains are Appalachian Mountains, Ural Mountains, Aravalli Mountains.

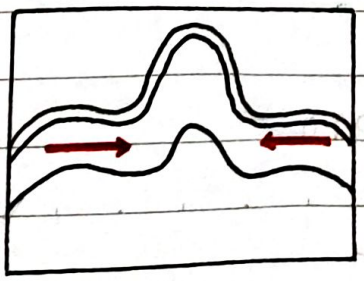

Fig: fold mountain

(B) Block Mountains:

→ These mountains are formed as a result of faulting activity.

→ The forces that act during the formation of these mountains are Tensional Force and Compressional Force.

→ Block Mountains are formed in 3 ways:

(i) when the middle block between two normal faults moves upwards.

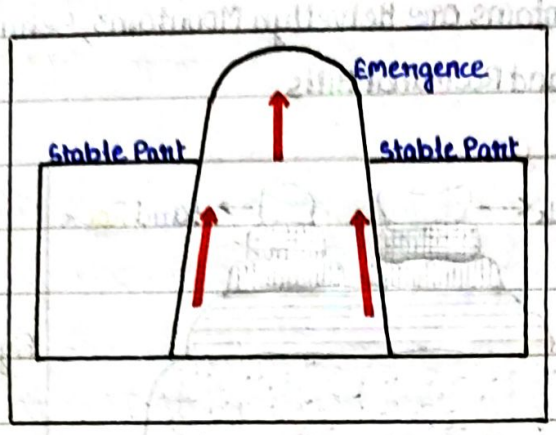

Fig: Block Mountain
(Movement of middle block upward)

(ii) When the side block of two faults move downward and the middle block remains stable at its place.

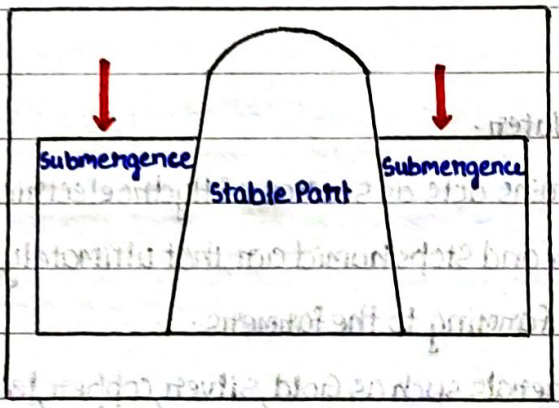

Fig: Block Mountain
(Movement of side block downward)

(iii) when the middle block between two normal faults moves downward. Thus, the formation of block mountains in this way also results in the formation of Rift Valley.

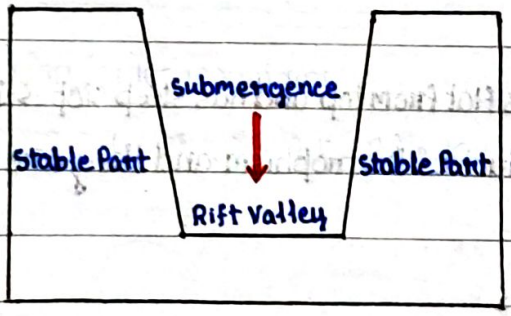

Fig: Block Mountain
(Movement of middle block downward)

→ Examples of Block Mountains are Great Rift Valley, Narmada Rift Valley, Vosges Mountain, Black Forest Mountain, Sierra Nevada Mountain etc.

(C) Residual Mountains

→ These are the mountains that remains standing even after getting badly eroded by different agents such as Wind, Rivers, Glaciers etc.

→ In this type of mountain, the harder rocks that are not eroded are left behind and they form Residual Mountain.

→ Examples of these types of Mountains are Helvellyn Mountains, Seimas Mountain (Spain), Mesas and Buttes (U.S.A), Parasnath and Rajmahal Hills

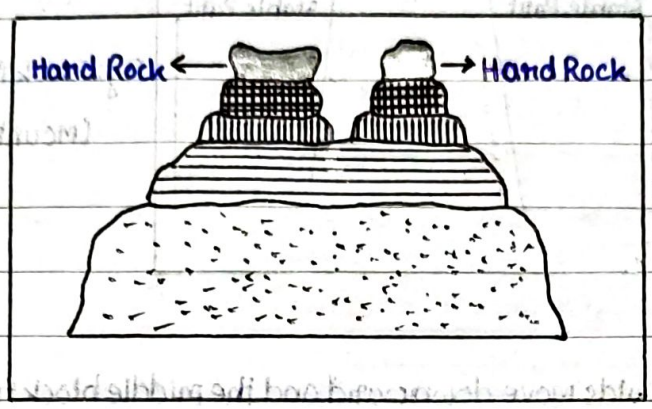

Fig: Residual Mountain

(4) Significance of Mountains:

→ They are the source of Fresh Water.

→ The rivers flowing from mountains acts as source of Hydroelectricity.

→ The mountains acts as barrier and stops humid air, that ultimately results in Orographic Rainfall.

→ It provides space for terrace farming to the farmers.

→ They are the good source of minerals such as Gold, Silver, copper, lead etc.

→ They are good source of medicines.

→ They provide Scenic beauty and Adventurous sports for tourists.

→ They are good source for development of Lumbering Industry.

(5) Plateaus:

→ A Plateau is a elevated land that is flat from top and has steep slopes. It is also known as Table Land.

→ All the Plateaus are direct product of Diatrophism and they are modified by various agents of Erosion and Volcanism.

(6) Types of Plateaus

→ On the basis of Origin, Plateaus are divided into :-

(a) Glacial Plateau:

→ When mountains are eroded due to Glacial action, they are lowered in height. This results in the formation of Glacial Plateau.

→ eg: Chibben Garhwal Plateau and Mang Plateau in India, Scandinavian Plateau of Europe, Labrador Plateau of Canada etc.

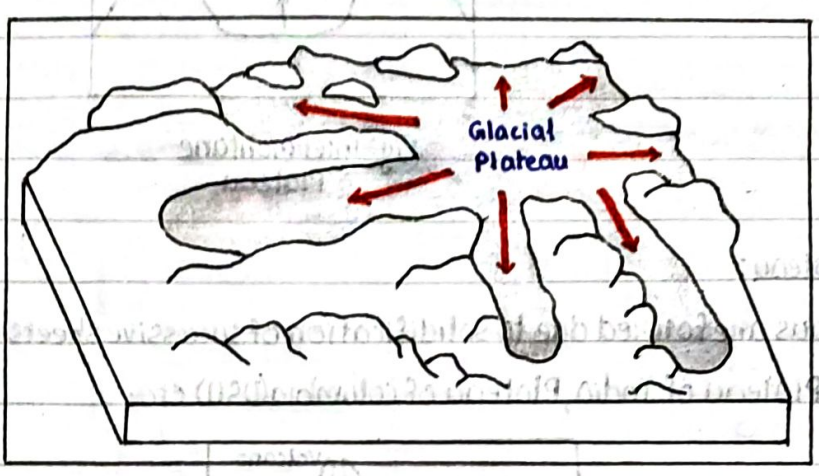

Fig: Glacial Plateau

(b) Fluvial Plateau:

→ This plateau is formed due to continuous deposits of fluvial Sediments brought by rivers.

→ These sediments are raised upward from the surrounding area resulting in formation of Fluvial Plateau.

→ eg: Panna Plateau, Reva Plateau and Rohtas Plateau in India.

(c) Aeolian Plateau:

→ This plateau is formed due to deposition of fine sediments brought by winds.

→ eg: Potwar Plateau of Pakistan, Loess plateau of China.

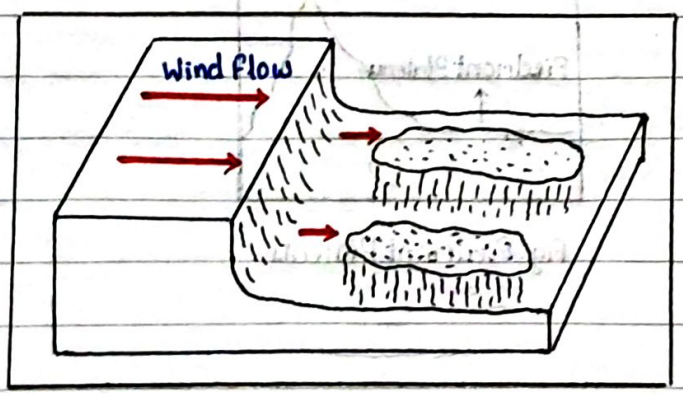

Fig: Aeolian Plateau

(d) Intermontane Plateau:

→ These are the highest plateaus of the world.

→ They are formed due to upwarping of middle portion of land near the mountains.

→ These plateaus are enclosed by fold mountains from all sides.

→ eg: Tibetan Plateau, Ladakh Plateau, Anatolia Plateau, Bolivian Plateau, Mexican Plateau etc.

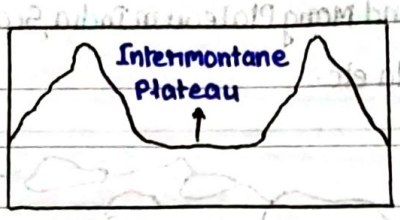

Fig: Intermontane Plateau

(e) Volcanic Plateau:

→ These Plateaus are formed due to solidification of successive sheets of lava.

→ eg: Deccan Plateau of India, Plateau of columbia(USA) etc.

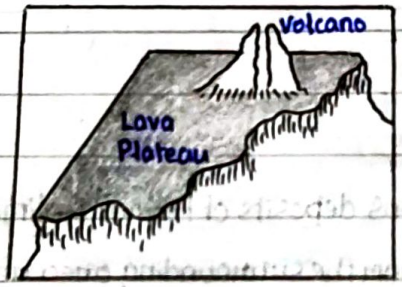

Fig: Lava Plateau

(f) Piedmont Plateau:

→ These plateaus are formed at the foothills of the mountains.

→ These plateaus has mountain on one side and plains on other.

→ eg: Patagonian Plateau, Appalachian piedmont plateau etc.

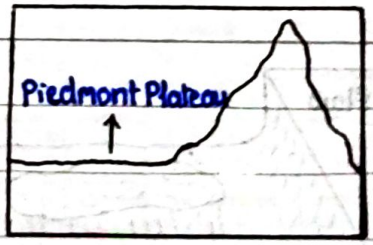

Fig: Piedmont Plateau

(7) Significance of Plateau:

→ They are the source of minerals like Iron, Coal, Manganese etc.

→ They have fertile black soil which is good for agriculture.

→ They have many waterfalls which helps in electricity generation and provides scenic beauty.

→ They also have extensive grasslands that are good for cattle rearing.