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Ch: LAND FORMS AND THERE EVOLUTION

Erosional Landforms

Valleys

- Valleys start as small and narrow rills. These rills will progressively develop into long and wide gullies.
- The gullies will again deepen, widen and lengthen to give rise to valleys.
- The valley types depend upon the type and structure of rocks in which they form.
- Depending upon sizes and shapes, several types of valleys like V-shaped valley, gorge, canyon, etc. can be recognized.
- A gorge is a deep valley with very steep to straight sides.
- It is almost equal in width at its top as well as its bottom.
- A canyon is characterized by steep step-like side slopes and might be as deep as a gorge.
- It is a variant of the gorge.
- A canyon is wider at its top than at its bottom.
- It is commonly formed in horizontal bedded sedimentary rocks and gorges form in hard rocks.

Potholes

- Potholes are cylindrical holes drilled into the bed of a river that varies in depth and diameter from a few centimetres to several metres.
- They are found in the upper course of a river where it has enough potential energy to erode vertically and its flow is turbulent.

Plunge Pools

- A sequence of such depressions ultimately joins and the stream valley gets deepened.
- At the foot of waterfalls also, large potholes, quite deep and wide, form because of the absolute influence of water and rotation of boulders.
- These large and deep holes at the base of waterfalls are called plunge pools.
- These pools also help in the deepening of valleys.

Incised or Entrenched Meanders

- Entrenched meanders are symmetrical and form when the river down cuts quickly.
- The speed of the river downcutting gives less opportunity for lateral Thus giving them symmetrical slopes.
- These are very deep and wide meanders can also be found cut in hard rocks.
- It is common to find meandering courses over floodplains and delta plains where stream gradients are very gentle.

River Terraces

- River terraces are surfaces marking old valley floor or floodplain levels.
- They may be bedrock surfaces without any alluvial cover or alluvial terraces consisting of stream deposits.
    - **Paired terraces:** The river terraces may occur at a similar elevation on either side of the rivers.
    - **Unpaired terraces:** When a terrace is present only on one side of the stream and with none on the other side or one at quite a different elevation on the other side.

    - Change in hydrological regime due to climatic changes.
    - Sea level changes in case of rivers closer to the sea.
    - Receding water after a peak flow.
    - Tectonic uplift of land.