Landforms are natural physical features on the Earth's surface (mountains, valleys, plateaus, plains, etc.). Their **development and evolution** are governed by a complex interplay of **endogenic and exogenic forces**, **climatic**, **geological**, and **biological** factors.

I. Endogenic Factors (Internal Earth Forces)

These originate **within the Earth** and are primarily responsible for **constructive processes** like mountain building, volcanism, and uplift.

1. Tectonic Forces

- Movements of **lithospheric plates**: convergence, divergence, and transform faults.
- Cause orogenesis (mountain building), folding, faulting, and rifting.
- Example: Himalayas formed due to the **collision of Indian and Eurasian plates**.

2. Volcanism

- Molten magma erupts through the Earth’s crust.
- Forms landforms like **volcanoes, lava plateaus, calderas, volcanic islands**.
- Example: **Deccan Plateau** (Basaltic lava flows).

3. Isostasy

- Vertical adjustments of the Earth’s crust to maintain equilibrium.
- Affects elevation and subsidence.
- Example: Uplift of **Scandinavian Shield** after ice melt.

II. Exogenic Factors (External Earth Forces)

Operate **at or near the Earth’s surface**, mainly resulting in the **destruction, transportation, and deposition** of materials.

1. Weathering

- Disintegration of rocks in-situ by physical, chemical, or biological means.
- Types:
  - *Mechanical:* frost action, exfoliation.
  - *Chemical:* carbonation, hydrolysis.
  - *Biological:* plant root action.

2. Erosion

- Wearing away of Earth’s surface by agents like water, wind, ice, and waves.
- Responsible for features like **canyons (Grand Canyon)**, **gullies**, and **badlands**.

3. Transportation and Deposition

- Carried out by **fluvial, glacial, aeolian, marine** agents.
- Deposition builds **deltas, alluvial fans, moraines, dunes**.

III. Climatic Factors

Climate influences the **rate and type of weathering**, vegetation cover, and effectiveness of erosion agents.

1. Temperature & Precipitation

- Arid regions: **wind action dominates** (e.g., deserts).
- Humid regions: **fluvial and chemical weathering** (e.g., tropical river valleys).

2. Glaciation

- In cold climates, glaciers sculpt **U-shaped valleys, fjords, cirques**.
- Example: **Himalayan Glaciated Valleys**.

IV. Lithological and Geological Structure

1. Rock Type (Lithology)

- Determines **resistance to erosion**.
- Hard rocks (granite, basalt) form hills; soft rocks (shale, sandstone) erode faster.

2. Structure (Stratification, Folding, Faulting)

- Horizontal strata → plateaus
- Tilted strata → cuesta, hogbacks
- Faults → rift valleys (e.g., African Rift Valley)

V. Biological Factors

- **Vegetation**: protects soil from erosion, regulates runoff.
- **Microbial activity**: contributes to soil formation.
- **Human activities**: deforestation, mining, urbanization alter landforms significantly (anthropogenic geomorphology).

VI. Time Factor

- Landform evolution is a **gradual and cumulative process**.
- **Davisian Cycle of Erosion**: youth → maturity → old age.
- **Penck & King's models**: emphasize continuous slope decline or parallel retreat.

CONCLUSION:

Landform development is not the result of a single factor, but a **synergistic interaction** of **internal forces, surface processes, climatic conditions, rock characteristics, biological agents**, and **temporal dynamics**