

UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Glacial Erosional Landforms [Geography Notes for UPSC]

Glacial Erosional Landforms

Glaciers have played a prominent role in the shaping of landscapes in the mid and high latitudes of alpine environments. The major erosional landforms made by glaciers are

- Cirque
- Horns and Serrated Ridges
- Glacial Valleys/Troughs

Cirque

- Cirque is an amphitheatre-like valley formed by glacial erosion.
- They are long, deep, and wide troughs or basins with very steep concave to vertically dropping high walls on its head as well as sides.
- They are commonly found of landforms in glaciated mountain especially at the heads of glacial valleys.
- The amassed ice cuts these cirques whereas moving down the mountain tops.
- A lake of water can be seen frequently inside the cirques after the glacier vanishes.
- Such lakes are called Cirque or tarn lakes.

Horns and Serrated Ridges

- Horns form through headward erosion of the cirque walls.
- Horns form when three or more radiating glaciers cut the headward until their cirques meet high, sharp pointed and steep-sided peaks.
- The splits between Cirque side walls or head walls get narrow because of progressive erosion and turn into saw-toothed ridges occasionally mentioned to as arêtes with very sharp crest and a zig-zag outline.
- Horns formed through headward erosion of radiating cirques are:
 - The highest peak in the Alps
 - Matterhorn

- The highest peak in the Himalayas Everest

Glacial Valleys/ Troughs

- They are U-shaped and trough-like with broad floors and comparatively smooth and steep edges.
 - The valleys may comprise scattered debris or debris moulded as moraines with swampy
 - The very deep glacial troughs occupied with sea water and making up shorelines in high latitudes are known as fjords.
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- Tectonic uplift of land.

