

GLOSSARY

Detailed meanings of geographical terms

- **Alluvial fans** : When a river enters the plain area after crossing the mountainous area, its speed reduces drastically and the sediments brought down with it get deposited at the river bed. This deposition looks like a fan and therefore it is called alluvial fans. These alluvial fans can be seen in semi-arid regions. At the foothills of the Himalayas, esp. after crossing the Siwalik ranges, rivers enter the North Indian plains. Such plains are formed here. eg. alluvial fans formed by river Kosi.
- **Arch** : Where headlands extend well into the sea, they get eroded and sea arches are formed. They are found mostly in the regions having soft sedimentary rocks like sandstone or limestone. Waves hit the base of the headland on both the sides. The base part is eroded and with time, sea arch is formed.
- **Barchan** : A crescent shaped sand dune. The convex side of this dune is the windward side, while the concave side is opposite the flow of the wind. The windward convex side has gentle slope while concave side is steep. When the winds carrying sand particles slow down or come across an obstacle, deposition takes place and heaps of sand develop. The flow of the wind diverts at the heap and wind starts blowing from both the sides of the heap. Sand starts moving ahead along the direction of the wind and the heap gets a crescent shape. The windward side of the barchan keeps receiving sand particles and therefore, ripple marks are visible on this slope.
- **Beaches** : Land between two headlands. Because of the headlands, coast is somewhat protected from the onslaught of the waves. Waves coming to the coast undergo refraction continuously. Because of this refraction, waves converge at the headlands. While they diverge between two headlands. Consequently, the energy stored in them also bifurcates, the transporting ability also gets reduced and the sediments get deposited between the two headlands. As the process takes place continuously on a large scale, beaches are formed by deposition of sand. Beaches are generally concave to the sea.
- **Biological weathering** : Weathering caused due to living organisms.
- **Black and white patterns** : Various patterns of black color used to show subdivisions of a region on a map.
- **Block Disintegration** : Weathering happening due to water entering the crevices and joints of rocks. Mainly the joints or crevices broaden and blocks of rocks separate.
- **Buoyancy** : The force of a liquid acting in a vertical direction which opposes sinking of a floating object. With increasing density of the liquid, buoyant force increases.
- **Buyer** : Consumer who pays in exchange of a good or service.
- **Caves** : Open hollow space formed beneath the ground through natural process is called cave. Caves are formed due to chemical weathering of rocks. We find many small and large caves in limestone regions. Stalactites and stalagmites are formed inside these caves. Caves are also formed in regions other than limestone landscapes. Sea caves are formed due to chemical weathering and erosional work of the waves. Caves can be man-made too e.g. the caves of Ajanta and Ellora.
- **Chemical weathering** : Weathering occurring through chemical reactions. This weathering happens in regions of humid climates. Major processes include carbonisation, solution, oxidation, etc. In

equatorial areas, Chemical weathering happens upto considerable depths.

- **Choropleth method** : A method of preparing distributional maps. Area-related (polygonal) statistical information is used in this method. One value is assigned to the whole region (division). Different tints of colors are used for different values and the map is prepared accordingly.

- **Cirque and Horn** : Landforms produced due to erosional work of glaciers. Both the landforms are produced in the areas where the glaciers originate. After snowfall, the snow doesn't start flowing immediately like water, it gets deposited. It deposits more at the base than the slopes. When many layers of snow get deposited, the lower layers face pressure from above and turn into ice. While turning into ice and because of pressure, some ice at the bottom turns into water due to friction. This water starts flowing along the slope. This flow is the starting point of glacier. Ice on the slope also starts moving downwards. Friction causes the slopes of the mountains to become steep. Moving ice gets deposited at the foothills. Weathering by melted water leads to deepening basal portion. Such deepened portions at the base of slopes are called cirques. The cirque and the mountain behind it with steep slope together look like a big 'armchair' and therefore, cirques are often called gigantic armchairs. If cirques develop on all the sides of the mountains slopes, then the summit of the mountain looks like a horn. This is called horn. 'Matterhorn' in the Alps along the borders of Italy and Switzerland in Europe is the world famous example of horn.

- **Class interval** : The difference between the higher boundary and the lower boundary of a class is called class interval. While making choropleth or isopleth maps, 5-7 classes are made considering the maximum and minimum

values of a variable.

- **Colour tints** : Colours are used to show various types of regions on thematic maps. In choropleth or isopleth maps, various tints of the same colour are used. These tints are dependent on values. Regions with lesser values are shown by lighter tints while higher values are represented by darker tints.

- **Concentric layers** : When hills are formed, they move up and down continuously because of upward movement of air currents. As they go to higher attitude, a new layer of ice gets deposited around it. As this happens frequently, many layer get deposited on top of each other. Such layers are called concentric layers.

- **Conglomerate** : The pebbles in the sediments at the bottom of the river consolidate together because of mud and rock gets formed when such material is subjected to pressure. The pebbles in it are easily visible.

- **Convection current** : A flow in which movement occurs in upward, downward and circular directions like the flow in boiling water.

- **Deficit** : Situation arising when supply is less than its demand.

- **Delta** : Landform formed due to the depositional work of rivers at its mouth. In the lower course of the river, the flow of the river is very slow but the volume of water has increased. Sediments brought with the flow get deposited in the river bed itself and the flow of the river gets divided into many channels. These are known as braided channels. Later, where the river meets the sea, the sea waves somewhat oppose the river flow and therefore, a large amount of deposition of sediments occurs. Many channels form out of the main river and meet the sea independently. Such channels are known as distributaries. The

part between two distributaries is made up of sediments. The seaward side is broader while the landward side tapers. This looks like a triangle and therefore it is known as delta.

- **Demand** : The measure of goods/services which consumers are ready to buy at a specific price is called demand. The price of the goods or services can change according to demand.
- **Dot method** : A method used in preparing distributional maps. In this method, data obtained through counting is used e.g. population, cattle count, etc. While preparing such maps, factors which affect the distribution of an element like physiography of a region, transportation routes, river systems, etc. have to be taken into consideration.
- **Downward movement** : Going at a lower level. The movement of a material taking place in a downward direction. Such types of movements occur in the interior of the earth.
- **Drumlin** : Hills formed due to deposition of moraines. They are generally egg-shaped . If there are many hills of this type in a region, then such a region is called egg-basket.
- **Erosion** : Wearing away of rocks by different agents. The rocks are eroded continuously by the wind, rivers, glaciers, the sea waves and groundwater. The wearing takes place mainly because of the kinetic energy generated during the movement of the agents. Kinetic energy is dependent on the mass and the velocity of the moving material.
- **Eskers** : Narrow, long, winding ridges produced through deposition of moraines
- **Exfoliation** : Mechanical weathering taking place due to the 'peeling' away of outer layers of rock. Rocks get heated due to sun's heat. Granular tension develops in the rock because of alternate contraction and expansion of minerals in the rock. The upper/

outer layer of the rock gets affected the most. So successive layers come out with time.

- **Fault** : Because of interior movements of the earth, rocks undergo tension and develop fractures. Such fractures are called faults. Faults can also develop when due to extreme pressure in folding as the folds break.
- **Flood levees and flood plains** : Landforms formed due to depositional work of rivers. When the level of water in the river channel increases, it overflows and waterspreads to nearby areas. This is called flooding. When the river is flooding, a large amount of sediment comes out with the flow. Heavy sediments are found towards the bottom of the river while suspended particles are scattered all over. Suspended sediments get deposited to the places where the flood waters reach perpendicular to the flow of the river. This region is called flood plain. The coarse sediments carried by the flood water gets deposited at the banks and as continuous process of deposition occurs at the bank, its level increases. Levees parallel to the river flow are formed close to the bank. These are called flood levees.
- **Folding** : Due to the movements occurring in the mantle of the earth, the crust faces pressure and gets folded. This process is called folding.
- **Frost** : Particles of snow formed from sublimation of water vapor at the surface. These are seen on the plant leaves, window panes, etc
- **Frostbite** : Freezing of skin and its upper tissues because of very cold temperatures. Tourists going to snow-covered regions face frostbites many a time. Generally, it affects hands, legs and skin of the face. Severe frostbite can affect skin, tissues and can even reach the bones.
- **Gorge** : Deep and narrow valley. The slopes of gorges are steep and almost vertical .

- **Granular weathering** : Weathering of rock particles by breaking into granules esp in rocks like sandstone, conglomerate when the cementing material weakens and the joined particles become loose and come off.
- **Gravitational force** : An object which has mass attracts other objects having mass. This force of attraction is called gravitational force. The object which has more mass has more force. Gravitational force is dependent upon the masses of the objects and the distance between them.
- **Gross Domestic Product (GDP)** : It is the sum of all productions in all sectors in an economy in one year. The goods and services produced in the primary , secondary and tertiary occupations are considered for the GDP. The value of production of GDP in monetary value is the national income of the country.
- **Hamada** : A landform found in the desert regions. They are mainly in the form of tall, dry, rocky plateaus in desert regions. Because the sand has been carried away in the process of transportation, there is less sand on them and mainly pebbles are found on the plateaus.
- **Hanging valley** : Landform produced due to erosional work of glaciers. The amount of snow in a tributary glacier is less compared to the main glacier. Consequently, erosion happens at a lower scale. In the main glacier, snow is accumulated to full height in its bed. When the main and the tributary glaciers meet, the height of snow is the same rather than the heights of their beds. The bottom of the tributary glacier is at higher level than the bottom of the main glacier. When snow melts, the difference in height of their bases becomes visible. The valley of the tributary glacier is higher and appears like it is hanging over the valley of the main glacier. Therefore, such a valley is called hanging valley.
- **Horizon** : The line where the sky and the land appear to meet. When the celestial bodies like the sun and the moon appear on this line, it is said that they have risen and when they disappear, it is said that they have set.
- **Hydraulic** : Related to liquid. Erosion caused due to pressure of liquid. Such erosion can be seen by the waves in coastal areas. Waves rise up at the rocky coasts. The air in the deeper part gets trapped. When the waves break and hits the rocks, the trapped air is freed in an explosive manner. Tremendous energy is released in this process and this wears away the rock at its base.
- **Internal trade** : Exchange of goods and services within the sub-divisions of a region.
- **International Date Line (IDL)** : An imaginary line which approximately follows 180° meridian. Travelers have to change the date and time while crossing the IDL. While travelling to the east, i.e. going from Asia-Australia to the continents of Americas the last day and date is accepted i.e. the ongoing date is carried forward. But while travelling from the American continents towards Asia-Australia i.e towards the west, travelers need to add one day and take the next day and date. The line goes completely through the ocean.
- **International trade** : Trade between countries. Also known as export-import trade. This can be bilateral or multi-lateral. Goods produced in a country are exported to or imported by another country by paying its cost.
- **Invisible trade** : A trade in which exchange of goods does not occur. Service trade is an example of invisible trade. Tourism is also a type of invisible trade.

- **Isopleth method** : A method of drawing maps. Point-related statistical data is used in this method. This means that statistical data belongs to a place. This method is used for the variables whose distribution is continuous, e.g. rainfall, temperature, etc.
- **Lagoon** : Lagoons are commonly divided into coastal lagoons and atoll lagoons. Both the types of lagoon lakes are shallow and are separated from the main sea. Tides have no influence over them. Waves are also not very high. Coastal lagoons are formed due to deposition of sand. Atolls are separated from the main sea because of coral reefs.
- **Land locked** : Surrounded by land. (1) Seas that are not connected to any ocean. They are called land-locked seas like Aral Caspian. (2) Countries which do not have any coast are also called land-locked countries like Nepal, Bhutan etc.
- **Landslide** : Weathered rocks accumulate on the slopes of hills on a large scale. As this heap is somewhat brittle, water penetrates in it during rainy season. As a result, the mass of the heap increases and it starts moving towards the foothills. The speed of moving material increases and in no time a big rock and heap of soil comes down the hill. Landslides also occur due to earthquakes.
- **Lichen** : One of the primary plants formed out of the coming together of fungus and algae. It generally grows on the rocks, walls and trunks of the trees.
- **Market Committees** : Market Committees have been established to facilitate sale of the products by producers and buying by traders at one place. As farming is done in extensive areas, the marketing of the farm products through market committees becomes feasible.
- **Mechanical weathering** : Wearing away of rocks due to contact with the physical environment is called mechanical weathering. This includes processes mainly thermal tension, crystallization, release of pressure, etc.
- **Moss** : Small flowerless plants, they always grow in moist shaded locations. They can be seen on the trunks of trees in the humid climates.
- **Mushroom rock** : Landform formed due to erosional work of wind.
- **Oxidation** : A type of chemical weathering. When oxygen reacts with iron in the rock, rust is formed. Reaction of any element with oxygen is called oxidation.
- **Per Capita Income** : The ratio between the total population of the country and the total national production is called Per capita income.
- **Plates** : The crust floats on the mantle but the crust is not continuous. It is separated into small and large piece. These pieces float over the mantle and also move independently. These pieces are called plates.
- **Precipitation (in chemistry)** : Solidification of a previously dissolved substance from a solution. Through chemical weathering processes like carbonation and solution, alkalis in the rock get carried away with water in soluble form. When water evaporates, these alkalis accumulate at a place in solid form. When this happens it is said that alkalis have been precipitated. The stalactites and stalagmites formed in limestone landscape are a result of precipitation.
- **Producer** : One who produces. One who obtains products with the help of natural or artificial processes is called producer.
- **Radioactive substances** : In elements with higher atomic numbers, that are invisible, highly penetrating and emitting spontaneously.

high quality radiations. Such substances are called radioactive substances. For example, uranium, thorium, radium, etc.

- **Rain gauge** : Instrument to measure the amount of rainfall. In a simple rain gauge, the collected rain water is measured by a measuring jar. Through a self-recording rain gauge a graph for rainfall the whole day or during a specific period gets drawn.

- **Remote sensing** : Obtaining information regarding any place or an object without actually establishing direct contact with it is called Remote Sensing. In this technique, information regarding the earth's surface is obtained through aerial photography or satellite sensors. Such information is used to study natural resources.

- **Retailers** : The link between wholesale traders and consumers or customers. Retail traders buy goods from wholesale traders and make them available to the consumers.

- **Ripple marks** : When water flows or wind blows over loose sand, the sand towards the bottom is pulled or pushed in the direction of flow, wave like structures of sand are formed on sand perpendicular to the flow. These ripple marks are seen on beaches in coastal areas or towards the windward side of the barchans.

- **Roche Moutonnee** : Landform found in the glacier bed. It is formed due to erosional work of glacier. The passage of glacier ice over underlying rock the up slope side smooth while the down slope side becomes rough because of weathering by melted water. This is called roche moutonnee.

- **Salinity** : The amount of salt in water. The amount of salt in the sea water is expressed in parts per thousand. Generally, the salinity of the sea is 35‰ which means that 1000gm of water contains 35 gm of salt.

- **Salt weathering** : This type of weathering is mainly seen on the rocky coasts. When waves break at the coast, their water droplets hit the sea cliffs. In this saline water, the soluble materials in the rocks get dissolved and small holes are formed in the rocks. This is the effect of solution. Through these holes, saline water enters the rock. After evaporation of water, the salts remain in the rocks itself. When they undergo crystallization, crystals grow and occupy more space. These creates tension in the rock. The holes get enlarged. This gives the cliff an appearance of honeycomb and hence this type of weathering is called honeycomb weathering.

- **Sand bar** : Many landforms are produced due to deposition of sand on the sea coasts. Beach is one of them. The waves carry away the sand on the beaches. But this sand is not carried too far; it starts forming keep usage the an is land parallel to the beach at a distance from the lowest level of low tide. With time, these islands become larger and a series of islands get formed. Such island get connected to each other to form a sand bar. As there bars are parallel to the beach, they may give rise to lagoon lakes.

- **Sandstone** : Rock made up of sand. It is a type of sedimentary rock.

- **Sand dune** : Landform produced due to the deposition work of wind. Such landforms are produced in arid regions or along sea coasts. According to their shape, sand dunes can be divided into two major types : Barchans and seifs.

- **Sea cave** : Caves are formed when sea waves hit the foot of the sea cliffs. Except few examples, these caves are not very deep.

- **Sea cliff** : Landform formed by erosional work of sea waves. Sometimes the hills extend upto the sea coasts; the waves hit its

base continuously. The rocks at the foot of the cliff start eroding. Consequently, the upper rocks fall down as their foundation gets lost suddenly. This leads to formation of sea cliff. Mostly, wave-cut platforms are seen at the base of the sea cliff.

- **Seif** : In Arabic, seif means sword. Such sand dunes are narrow and spread to a long distance. They resemble swords and are therefore named so. They are parallel to the direction of the wind blowing. They taper towards the wind direction. Their slopes are somewhat symmetrical and crests are sharp. In Rub-al-khali desert of Saudi Arabia and deserts in Iran, seifs are visible even up to 200 km.

- **Services** : Type of human occupation. In this, trade or production of goods does not occur. The people engaged in this occupation provide various services to the people like teachers, lawyers, doctors, etc.

- **Shattering** : A type of mechanical weathering. In temperate zones where temperature falls below zero, water in the crevices of the rocks freezes. Frozen water needs more space and this leads to breaking of rocks. Their shattered pieces spread here and there.

- **Sink hole** : A landform produced mainly in limestone region due to erosion. Limestone, contains soluble materials in greater amounts. Such materials dissolve in water and are carried away by water. This process leads to formation of caves in this region. With time, the roof of the cave collapses and only a hole is visible on the ground. Such a hole produced naturally in the ground is called sink hole. The water that flows on the surface meet appears to get lost in there holes.

- **Solifluction** : Mass movement occurring slowly. In peri - glacial areas, where temperatures are below zero degrees for

a period, processes of freezing of water and melting of snow occurs continuously. Solifluction occurs here mainly.

- **Solubility** : The capacity of a liquid to dissolve other materials in itself.

- **Soluble** : A material which can get dissolved.

- **Stalactite and Stalagmites** : Pillars formed from alkaline deposits in the caves in limestone areas. Salts brought by flowing groundwater deposit in the caves when water evaporates. When alkalis deposit, pillars start growing either from the roof down or floor up of the cave. Those which grow from the roof towards the floor are called stalactites while those which grow from the ground towards the roof are called stalagmites. Bora caves in Vishakhapatnam district in Andhra Pradesh are one of the major limestone caves in India.

- **Thematic maps** : Maps drawn to display the geographical distribution of one or more variables.

- **Tourist** : Traveller who visits various places for recreation and stays there for some time.

- **Tourist-places** : Sites which attract tourists natural, historical, religious places. Tourists visit such places.

- **Upward movements** : The movement of a material to a higher level in a vertical direction. Such movements occur in the earth's interiors.

- **Universal solvent** : A solvent in which many soluble materials can get dissolved. As water can dissolve number of materials, it is known as a universal solvent.

- **Urban population** : The number of people living in urban areas. Most of them are engaged in secondary or tertiary occupations.

- **V shaped valley** : Landform produced due to erosional work of rivers. A V-shaped river valley is formed near the origin of the river or in its upper course. Vertical erosion

occurs rapidly near the river. Comparatively the headward erosion is lesser. And therefore its elevation is higher. But the riverbed starts deepening. Consequently, it gets the shape of the alphabet 'V'.

- **Visible trade** : The type of trade in which goods are bought and sold or a trade in which the exchanged goods can be seen is known as visible trade.

- **Wave-cut platform** : Landform formed due to hitting of waves at the coast. Such platforms are formed at the base of the sea cliffs generally.

- **Weathering** : The process by which rocks become weak. Three types of weathering are mechanical, chemical and biological.

- **Wholesale market** : The market where producers sell their products to big traders. At these markets, traders or consumers who want to buy in retail do not turn up generally.

- **Yardang** : Landform formed due to the dual work of erosion and transportation by the wind. It is formed due to friction and carrying away of original rock or homogenous sediments. It looks like a toppled boat. The slope of the windward side is steep while the leeward side has a gentle slope. If the region has hard and soft rocks, then the part with soft rocks appears like trough while hard rock appears like a mound.

Reference Material :

- **Physical Geography**– A. N. Strahler
- **Living in the Environment**– G. T. Miller
- **A Dictionary of Geography**– Monkhouse
- **Physical Geography in Diagrams**–

R.B. Bunnett

- **Encyclopaedia Britannica Vol.**– 5 and 21
- **Population Geography**– Dr S. B. Sawant
- **मराठी विश्वकोश खंड**– १,४,९,१७ व १८
- **प्राकृतिक भूगोल**– प्रा. दाते व सौ. दाते
- **इंग्रजी-मराठी शब्दकोश**– J. T. Molesworth and T. Candy
- **भारतीय अर्थव्यवस्था**– डॉ. देसाई, डॉ. सौ भालेराव

Websites for reference :

- <http://www.kidsgeog.com>
- <http://www.wikihow.com>
- <http://www.wikipedia.org>
- <http://www.latlong.net>
- <http://www.ecokids.ca>
- <http://www.ucar.edu>
- <http://www.bbc.co.uk/schools>
- <http://www.globalsecurity.org>
- <http://www.nakedeyesplanets.com>
- <http://www.windy.com>
- <http://science.nationalgeographic.com>
- <http://en.wikipedia.org>
- <http://geography.about.com>
- <http://earthguide.uced.edu>