21. SOILS OF INDIA

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- The regional variations in soil composition and texture in vast country like India are an obvious outcome of variety of landforms and climatic conditions found here.
- The Indian Council of Agricultural Research has classified the Indian soils into 8 categories:

Alluvial Soil

- This type of soil is spread over about 13 lakhs Km^2 area of the country, which constitutes about 40% of the total land area.
- It contains sand, loam, and clay in different proportions.
- It is found mainly in coastal plain areas and deltaic regions.
- These are also found in foothills regions in plenty.
- It can be further divided into khadar and Bhangar.
- Old alluvial is called Bhangar and contains pebbles and calcium carbonate. Its colour is black or dark brown.
- It is found at a height of about 30 m. from the khadar.
- New alluvial called Khadar is the soil deposited by the rivers every year.
- It is more fertile than the Bhangar.
- Alluvial soils are rich in Potash, Phosphoric acids, lime and Carbon compounds.
- It is poor in Nitrogen and humus.

Black Soil

- It is also known as 'Regur' Soil.
- Black Soil also knwon as 'Cotton Soil'.
- It is of black colour.
- It is best suited for the cultivation of cotton.
- It spreads over about 5.46 lakhs km^2 area.
- It is formed by the weathering and erosion of volcanic lavas.
- The climatic factor along with the nature and composition of rocks is very much important in the formation of black soil.
- Its black colour is due to the presence of magnetite, iron, compounds of aluminium, humus, aluminium silicate, etc.
- It becomes sticky when wet, whereas when it is dry, cracks develop in it.
- It has very high moisture retaining capacity.
- Black soil is the most suiable soil for dry farming. Cotton, coarse grains, Sunflower, Oil seeds, Vegetables and citrus fruits are grown in it.
- It is rich in aluminium, calcium and magnesium, iron, lime and potash.
- It is poor in nitrogenm phosphorus and carbon compounds.

Red Soils

- It speads over an area of about 5.18 lakhs km^2.
- It is formed from the crystalline rocks in the areas of heavy rainfall.
- In the low lying areas, it is found as clay and in the higher land.
- It is found as unconsolidated soil.
- It is relatively less fertile soil and needs irrigation.
- In the higher parts, it is suitable for growing bajra, groundnut and potato whereas in low lying areas, rice, ragi, tobacco and vegetables are grown in it.
- Red soils have ample amount of soluble salts,
- It is devoid of phosphoric acid, Carbon compounds, organic matter, lime and nitrogen.

Laterite Soils

- It spreads over an area of about 1.26 lakhs km^2.
- It is formed in the areas of heavy rainfall (200 cm or more) due to washing away of lime and silica.
- It is suitable for bushes and pastures only, but can be made suitable for the cultivation of rice, ragi, cashew, etc. by the use of fertilizers.
- In this Soil Iron oxides and aluminium oxides are found in sufficient quantities.
- It lacks in nitrogen, phosphoric acid, potash, lime and carbon compounds.

Forest and Mountainous Soils

- These soils are spead over an area of about 2.85 lakhs km^2.
- Variations are found in these soils due to various climatic and ecological conditions in which they are found.

- These soils are, yet, under formation process.
- These are acidic in nature due to excessive presence of less decomposed humus.
- These soils require fertilizers for agricultural purposes.
- In the regions of heavy rainfall, it contains more humus.
- Therefore, in these regions it is suitable for the cultivation of tea, Coffee, spices and tropical fruits. these soils are found in the mountainous and hilly tracts of Karnataka, Kerala, Manipur, Jammu & Kashmir and Himachal Pradesh.
- It is also suitable for the cultivation of various fruits, wheat, maize, barley, etc.
- Froest soils are devoid of potash, Phosphorus, and Lime.

Dry and Desert Soils-

- Thers soils are found over 1.42 lakhs km^2 area of arid and semiarid regions of the country.
- It contains sand in large quantities and is suitable for the cultivation of crops like Jowar and bajra.
- Wherever irrigation facilities are available, like Sri Ganganagar of Rajasthan, wheat and cotton are also grown in it.
- These soils contain soluble salts and phosphorus in large quantities.
- It lacks in carbon compounds and nitrogen.

Pete and Organic Soil-

- These soils are found in about 1.70 lakhs km^2 area of arid and semi arid parts of Rajasthan, Punjab, Haryana, Uttar Pradesh, Bihar, Maharashtra and Tamil Nadu.
- Howerver, excessive amounts of sodium and magnesium cause salinity in the soil, while higher amount of calcuim cause alcanity.
- So these are unsuitable for agricultural purposes.
- They formed in the area of canal irrigation due to capillary transference and are harmfully infertile for agriculture.
- These are locally known as- Reh, Kallar, Rankas, Oosar, Karl, Choppen, etc.
- These soils can be treated by irrigation with mixing lime and gypsum and by growing anti- salinity crops like rice and sugarcane.
- It can be made suitable for growing rice, sugarcane, cotton, wheat, tobacco, etc.

Deltaic Soil-

- These soils are formed due to excessive water and deposition of carbon compounds.
- These are found, chiefly, in the coastal areas and areas where water stagnates for long periods.
- These are rich in soluble salts but lack in phosphourus and potash.
- Wet soils are generally good for the cultivation of rice.
- Marshy soil is formed in the areas of excessive water and in anairobic condition due to the excessive presence of iron and vegetative remains.
- This soil is useless for agriculture.