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**SOIL TYPES AND THEIR DISTRIBUTION IN INDIA**

“soil” is a very broad term and refers to the loose layer of earth that covers the surface of the planet. The soil is the part of the earth’s surface, which includes disintegrated rock, humus, inorganic and organic materials. For soil to form from rocks, it takes an average of 500 years or more. The soil is usually formed when rocks break up into their constituent parts. When a range of different forces act on the rocks, they break into smaller parts to form the soil. These forces also include the impact of wind, water and the reaction from salts.

There are three stages of soil:

* Solid soil
* Soil with air in the pores
* Soil with water in the pores

There are various types of soil that undergo diverse environmental pressures. Soil is mainly classified by its texture, proportions and different forms of organic and mineral compositions.

**Types of Soil**

Soil is classified into four types:

* Sandy soil.
* Silt Soil.
* Clay Soil.
* Loamy Soil

Sandy Soil

The first type of soil is sand. It consists of small particles of weathered rock. Sandy soils are one of the poorest types of soil for growing plants because it has very low nutrients and poor water holding capacity, which makes it hard for the plant’s roots to absorb water. This type of soil is very good for the drainage system. Sandy soil is usually formed by the breakdown or fragmentation of rocks like granite, limestone and quartz.

Silt Soil

Silt, which is known to have much smaller particles compared to sandy soil and is made up of rock and other mineral particles, which are smaller than sand and larger than clay. It is the smooth and fine quality of the soil that holds water better than sand.  Silt is easily transported by moving currents and it is mainly found near the river, lake and other water bodies. The silt soil is more fertile compared to the other three types of soil. Therefore, it is also used in [agricultural practices](https://byjus.com/biology/agriculture-agricultural-practices/) to improve soil fertility.

Clay Soil

Clay is the smallest particle amongst the other two types of soil. The particles in this soil are tightly packed together with each other with very little or no airspace. This soil has very good water storage qualities and makes it hard for moisture and air to penetrate into it. It is very sticky to the touch when wet, but smooth when dried.  Clay is the densest and heaviest type of soil which does not drain well or provide space for plant roots to flourish.

Loamy Soil

Loam is the fourth type of soil. It is a combination of sand, silt and clay such that the beneficial properties from each are included. For instance, it has the ability to retain moisture and nutrients; hence, it is more suitable for farming. This soil is also referred to as [agricultural soil](https://byjus.com/biology/agriculture-soil/) as it includes an equilibrium of all three types of soil materials being sandy, clay, and silt and it also happens to have humus.  Apart from these, it also has higher calcium and pH levels because of its inorganic origins.

**Distribution Of Different types of soils in india**

The different types of soils found all over India are:

* Alluvial Soils
* Black Cotton Soils
* Red and Yellow Soils
* Laterite Soils
* Arid Soils
* Forest and Mountain Soils

Alluvial Indian Soils:

Characteristics: These are very fertile soils. These are mostly formed by river depositions. The important food crops of India are grown in these soils. With intense cultivation, the areas of these soils are densely populated.

Distribution: Alluvial Soils are distributed in the states of Punjab, Uttar Pradesh, Bihar and west Bengal which are drained by Indus, Ganges, and Brahmaputra river systems. Besides, these are also present in the coastal regions of Orissa, Andhra Pradesh and TamilNadu which are the delta regions of Godavari, Krishna, and Cauvery Rivers.

Crops Grown: Rice, Wheat, Sugarcane, Cereals, Pulses and many commercial crops are grown.

Black Cotton Indian Soils:

Characteristics: These are black in colour and have good moisture retaining capacity. When dry, they produce cracks and as the name suggests these soils provide the best conditions for growing cotton. Good rainfall and dry conditions simultaneously exist here.

Distribution: The Black cotton soils cover most of the Maharashtra state and are distributed in some parts of Gujarat, Chhattisgarh, Madhya Pradesh, Andhra Pradesh and Tamil Nadu.

Crops Grown: Cotton (intensively and extensively).

Red and Yellow Indian Soils:

Characteristics: The Red and Yellow soils occur in the regions of low rainfall. They are less fertile and need external sources like fertilizers and water supply. Areas of these soils exhibit the typical Indian agricultural situation.

Distribution: These soils are distributed in the dry parts of Gujarat, Madhya Pradesh, Chhattisgarh, Orissa, Karnataka, Telangana, Andhra Pradesh and Tamil Nadu.

Crops Grown: All types of crops grown in alluvial soils can be grown here but with the extensive external support of water and fertilizers.

Laterite Indian Soils:

Characteristics: Laterite soils are found in the regions of both high rainfall and high temperature. These are low in fertility but are suitable for plantation and horticultural crops due to high moisture.

Distribution: Laterite soils are found in most of the Kerala, parts of Karnataka, Orissa, Tamil Nadu and hilly areas of Orissa and Assam.

Crops Grown: TEA and COFFEE are grown in Kerala, Karnataka, and Assam. Besides, Horticulture (growing fruits and vegetables) is also practised.

Arid Indian Soils:

Characteristics: These are also called as desert soils which occur in the desert areas of the country. These soils lack humus and moisture due to excess heat.

Distribution: Arid soils are present in the desert areas of Rajasthan and Gujarat and in some low rainfall plateau regions.

Crops Grown: There is almost no cultivation in these soils.

Forest and Mountain Indian Soils:

Characteristics: They contain an excess of humus and less minerals and that’s why only Big trees can be grown here.

Distribution: As the name suggests, these soils are found in all the forest and mountain regions of the country like Himalayan regions, hilly areas and so on.

Crops Grown: Cultivation is not possible in these soils due to lack of inorganic content.

Conclusion:

Due to excess cultivation and mining, the soils are highly damaged nowadays which resulted in Soil erosion. Preventive measures are to be taken to protect the soils thereby the country.