

Q. classify Indian soils & discuss its impact on cropping patterns.

Ans Introduction :-

Topmost layer of soil the continental crust is known as soil. It consists of weathered particles fairly for a long time in a particular region, or a particular place.

Various schemes of soil classification has been presented for India but the most acknowledge work is of ICAR in 1956.

The ICAR presented this in the year 1956; under this scheme of classification they divided soil into 8 types considering the -

- a) characteristics of constituent particles or considering the compositional particles.
- b) Land capability
- c) colour of soil.

There are the 3 factors on which the basis of which classification is done. The following 8 types of soil is -

1) Alluvial Soil →

It covers the largest area in India. It is principally found in Central plain & coastal plain, inter mt. valleys & basins. It is a depositional soils made by rivers.

India's central plain is one of the flattest & thickest alluvial plain of the world. Alluvial thickness is more than 4 km & Khagaria, Munger, Katihar area has the thickest plain, where it is more than 5 km thick. No where in the world the thickness of alluvial soil is as much as in these areas.

Structurally it is divided into 3 types.

A) Bhabar — All Punjab, Haryana, western UP, Terai Area.

Bhabar is found in the foot hill plain of Himalayas. It has coarse texture, so water retaining capacity is more. Its southern part is known as Terai soil. It has adequate sand, lime & moisture. It is therefore very suitable for sugarcane farming.

B) Bangar — Old Alluvium — Dood land

It is older alluvial, loamy in char. Mined grains are found. Principally silts & clay are found. Imp. crop is wheat & sugarcane.

C) Khadar — In flood plain, Eastern UP, Bihar plain, E. coastal plain, lower Ganga Plain, Brahmaputra plain.

It is a newer alluvial. It is found in basin area of Narmada, Tapi & upper basin of E. coastal plain & upper land of Brahmaputra basin.

Alluvial soil in General →

It is nearly adequate in humus, Potash & limestone. In some case humus is in adequate but it has been very suitable for crops & varieties of crops can be grown.

India's crop of Rice, Sugarcane, wheat & Jute are coming from alluvium soil region.

There has already been 3 diff types of alluvium known as —

i) Red Alluvium -

It is the characteristic of Kaveri & Wagai valley of Tamil Nadu. This river has source in the Archean region. Consequently weathered particles have greater iron content, oxidised iron containing rock & provide red colour to the soil. It is mainly given to oil seeds, pulses, coarse grain farming.

ii) Black Alluvium -

Black alluvium is the characteristics of Wardha, Venganga, Narmada & Tapi valleys. All these rivers pass through Deccan lava plateau region. Here weathered particles provide black colour to the alluvial soil.

iii) Laterite Alluvium -

It is principally found in coastal areas of Kerala & Santal Pargana regions of Bihar. Here clay is the dominant constituent. But it is interrupted by oxidised iron nodules.

What is significant is that all types of alluvium is agriculturally suitable for all types of crops but they have relatively thick layers. There are several patches of intermont. valley having alluvium as the dominant soil constituent.

They are principally found in Kashmir valley, Doon valley, Kullu valley & in some intermont. basin of peninsular plateau. Alluvial soil has been of great imp. to Indian economy.

2) Red Soil →

It covers about 5.2 lakh km² area & is principally found in the peninsular pH. region of the country. It is a zonal type of soil. It is principally emerged in the region of Archaean-Dharwar structure. Red soil's largest area is in Tamil Nadu. It covers about 2/3rd geo. area of Tamil Nadu.

Besides Tamil Nadu this type of soil is also found in Karnataka pH. & pH. area of Tamil Nadu, Ray Seema & Dhankarni pH. area of AP, Durg, Dantwar, Balaghat & Gwalior dist. of MP, Thansi & Lalitpur of UP, E. Rayarthan & Ratnagiri dist. of Maharashtra, Travankare dist. of Kerala, Dharwar structure ^{area} of Bihar & some pH. area of WB & some patches of Meghalaya & Nagaland.

It's water retaining capacity is low. It has also deficiency of Nitrogenous & phosphorous content. Some content of humus is found. It has oxidised iron content due to which it has got red colour. It is not very suitable for agriculture.

It is principally given to coarse grain, pulses & oilseed. But paddy is also grown in red alluvium. It has given to coffee plantation in Chikmagalur dist. of Karnataka. The yield is very favourable.

3) Black Soil →

It covers 5.1 lakh km² area. It is also known as RACCOON or Cotton soil in Maharashtra & Gujarat resp. It is very fertile soil. It's

Its surface is coarse, but the presence of clay & sand just below the surface, make it able to retain water for a longer time. Consequently, this soil is also favourable for Dry Zone agriculture & Dry zone farming.

It covers the Dry zone area of Maharashtra Kathiawar pl., Telangana pl., Malwa pl., linear pl. area existing between Bangalore & Mysore & Coimbatore - Madurai uplands.

Black soil is further divided into 3 categories on the basis of thickness of the soil.

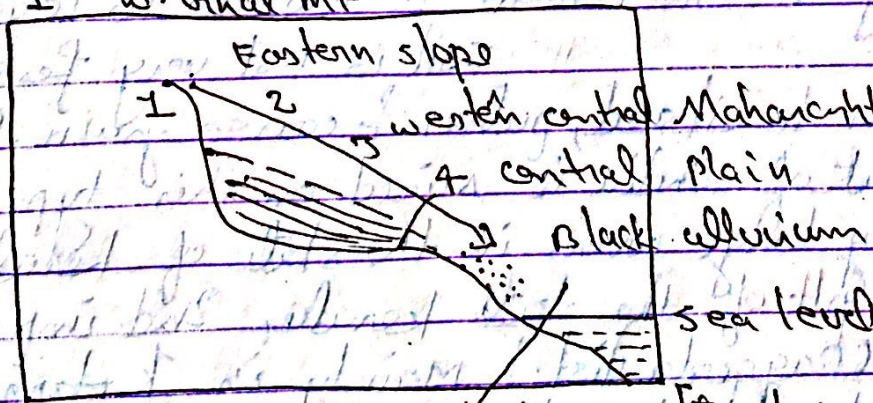
i) Deep Black - Western central Maharashtra, Telangana region.

ii) Medium Black - It is characteristic of central Maharashtra, Kathiawar pl.

iii) Light Black - Malwa pl., Kanataka pl. & Coimbatore - Madurai uplands.

All the 3 types are fertile soil.

1. W. Ghats mt.



Profile from West to East

Black soils are characterised by adequate Potash, aluminium & lime. They are inadequate in organic content. Humus content is low but its water retaining capacity is high. Consequently, it is able to provide some crop in the situation of drought.