

# Class 11 Geography NCERT Solutions Chapter 6 Soils

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## Class 11 Geography Chapter 6 NCERT Textbook Questions Solved

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1. Choose the right answer from the four alternatives given below:

Question 1(i).

Which one of the following is the most widespread and most productive category of soil?

- (a) Alluvial Soil
- (b) Laterite Soil
- (c) Black Soil
- (d) Forest Soil.

Answer:

- (a) Alluvial soil

Question 1(ii).

'Regur Soil' is another name for the.

- (a) Saline Soil
- (b) Arid Soil
- (c) Black Soil
- (d) Laterite Soil.

Answer:

- (c) Black Soil

Question 1(iii).

Which one of the following is the main reason for the loss of the top soil in India?

- (a) Wind erosion
- (b) Water erosion
- (c) Excessive leaching
- (d) None of these.

Answer:

- (a) Wind Erosion

Question 1(iv).

Arable land in the irrigated zones of India is turning saline due to which of the following reasons?

- (a) Addition of gypsum
- (b) Over grazing
- (c) Over irrigation
- (d) Use of fertilisers.

Answer:

- (c) Over Irrigation.

2. Answer the following questions in about 30 words.

Question 2(i).

What is soil?

Answer: Soil is the mixture of rock debris and organic materials which develop on the earth's surface. The various agents of weathering and gradation have acted upon the parent rock material to produce a thin layer of soil. Important components of the soil are mineral particles, humus, water and air. The actual amount of each of these depend upon the type of soil.

Question 2(ii).

What are the main factors responsible for the formation of soil?

Answer:

Relief, parent material, climate, vegetation and other life-forms and time are the important factors that affect formation of soil. Besides these, human activities also influence it to a large extent. For example, the laterite soils develop in areas with high temperature and high rainfall. Black soils are made from volcanoes. Forest soils are formed in the forest areas where sufficient rainfall is available. Peaty soils are found in the areas of heavy rainfall and high humidity, where there is a good growth of vegetation.

Question 2(iii).

Mention the three horizons of a soil profile.

Answer:

Three horizons of soil profile are:

1. Horizon A: It is the topmost zone, where organic materials have got incorporated with the mineral matter, nutrients and water, which are necessary for the growth of plants.
2. Horizon B: It is a transition zone between the 'horizon A' and 'horizon C', and contains matter derived from below as well as from above. It has some organic matter in it, although the mineral matter is noticeably weathered.
3. Horizon C: It is composed of the loose parent material. This layer is the first stage in the soil formation process and eventually forms the above two layers.

Question 2(iv).

What is soil degradation?

Answer:

Soil degradation can be defined as the decline in soil fertility, when the nutritional status declines and depth of the soil goes down due to erosion and misuse. Soil degradation is the main factor leading to the depleting soil resource base in India.

The degree of soil degradation varies from place to place according to the topography, wind velocity and amount of the rainfall.

Question 2(v).

What is the difference between Khadar and Bhangar?

Answer:

Basis	Bhangar	Khadar
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Composition	It is a highland composed of old alluvium.	It's a lowland composed of new alluvium.
Flood	It is always above the level of flood plains.	It is flooded almost every year.
Fertility	It comprises of canvanious nodules.	It comprises of clay soil which is normally fertile.
Suitability	It is not much suited for agriculture.	It is suited for agriculture. Intensive agriculture is practiced here.
Other name	It is known as dhaya in Punjab.	It is known as bate in Punjab.

3. Answer the following questions in about 125 words

Question 3(i).

What are black soils? Describe their formation and characteristics.

Answer:

Black soils are formed by volcanoes. These soils are also known as the 'Regur Soil' or the 'Black Cotton Soil'. Features: The black soils are generally clayey, deep and impermeable. They swell and become sticky when wet and shrink when dried. So, during the dry season, these soil develop wide cracks.

Thus, there occurs a kind of 'self ploughing'. Because of this character of slow absorption and loss of moisture, the black soil retains the moisture for a very long time, which helps the crops, especially; the rain fed ones, to sustain even during the dry season.

Chemical Composition: Chemically, the black soils are rich in lime, iron, magnesia and alumina. They also contain potash. But they lack in phosphorous, nitrogen and organic matter. The colour of the soil ranges from deep black to grey.

Areas: Black soil covers most of the Deccan Plateau which includes parts of Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh and some parts of Tamil Nadu. In the upper reaches of the Godavari and the Krishna, and the north western part of the Deccan Plateau, the black soil is very deep.

Question 3(ii).

What is soil conservation? Suggest some measures to conserve soil.

Answer:

Soil conservation is a methodology to maintain soil fertility, prevent soil erosion and exhaustion, and improve the degraded condition of the soil.

We can use following measures to conserve soil:

- Check open cultivable lands on slopes from farming.
- Lands with a slope gradient of 15 – 25 per cent should not be used.
- If at all the land is to be used for agriculture, terraces should carefully be made.

- Contour bunding, Contour terracing, regulated forestry, controlled grazing, cover cropping, mixed farming and crop rotation to conserve soil.
- Integrated land use planning, therefore, seems to be the best technique for proper soil conservation.
- Lands should be classified according to their capability; land use maps should be prepared and lands should be put to right uses.

Question 3(iii).

How do you know that a particular type of soil is fertile or not? Differentiate between naturally determined fertility and culturally induced fertility.

Answer:

The fine-grained red and yellow soils are normally fertile, whereas coarse-grained soils found in dry upland areas are poor in fertility. They are generally poor in nitrogen, phosphorous and humus.

Some soils have phosphorus, potassium, humus, nitrogen and calcium naturally. It increases the fertility of these soils. Such fertility is called naturally determined fertility. On the other hand, if soil is deficient in these substances, such substances are added in the form of fertilizers and manures. If fertility of soil is increased through human efforts, such fertility is called culturally induced fertility.

Naturally determined fertility makes human dependent on nature. Culturally induced fertility indicates that man has become master of the nature. It is an indicator of development of human race. Soils are living systems. Like any other organism, they too develop and decay, get degraded, respond to proper treatment if administered in time. A human being may be intelligent by birth or may be made intelligent by efforts. Similarly, soil may be fertile naturally and may be made fertile by human efforts. Former is called naturally determined fertility and the latter is called culturally induced fertility.

Project/ Activity

Question 1.

Collect various samples of soil and prepare a report on the type (s) of soils found in your region.

Answer:

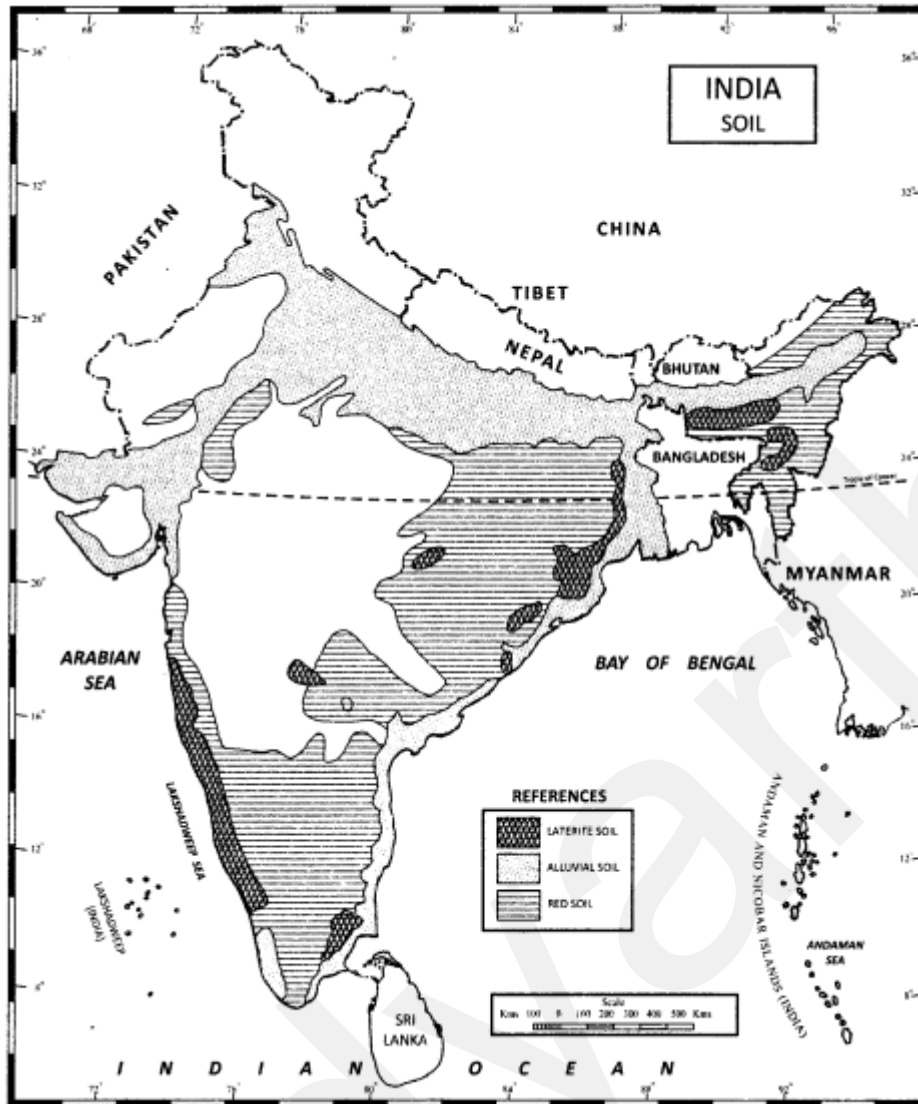
Attempt yourself.

Question 2.

On an outline map of India, mark the areas covered by the following soil categories.

- Red soil
- Laterite soil
- Alluvial soil.

Answer:



## Class 11 Geography Chapter 6 NCERT Extra Questions

### Class 11 Geography Chapter 6 Multiple Choice Questions

Question 1.

A mixture of rock debris and organic materials which develop on the earth's surface and nurture life is called:

- (a) Bhangar
- (b) Bhabar
- (c) Khadar
- (d) Soil.

Answer:

- (d) Soil

Question 2.

Destruction of layer of soil is called:

- (a) Soil Erosion
- (b) Soil Conservation
- (c) Soil Degradation

(d) Soil Formation,

Answer:

(a) Soil Erosion

Question 3.

Loss of fertility of soil is called:

(a) Soil Erosion

(b) Soil Conservation

(c) Soil Degradation

(d) Soil Formation.

Answer:

Soil Degradation

Question 4.

Which soil is formed by occurrence of volcanoes?

(a) Alluvial Soil

(b) Black Soil

(c) Laterite Soil

(d) Peaty Soil.

Answer:

(b) Black Soil

Question 5.

Which soil is made up by the deposition of rivers?

(a) Alluvial Soil

(b) Black Soil

(c) Laterite Soil

(d) Peaty Soil,

Answer:

(a) Alluvial Soil

Question 6.

A system of older alluvium, deposited away from the flood plains which is loamy and clayey is called:

(a) Khadar

(b) Bhangar

(c) Bhabar

(d) Degradation.

Answer:

b) Bhangar

Question 7.

Laterite has been derived from the Latin word 'Later' which means:

(a) Brick

(b) Infertile Land

(c) Gold Soil

(d) Eroded Soil.

Answer:

(a) Brick

Question 8.

What is the colour of arid soil?

(a) Brown

(b) Yellow

(c) Black

(d) Red and brown.

Answer:

(d) Red and Brown

Question 9.

Where are alluvial soils found in India?

(a) Northern plains and coastal areas

(b) Konkan Coast

(c) In Himalayan regions

(d) In North-east India.

Answer:

(a) Northern plains and coastal areas.

Question 10.

These soils are poor in organic matter, nitrogen, phosphate and calcium, while iron oxide and potash are in excess.

Which soils are these?

(a) Alluvial Soil

(b) Black Soil

(c) Laterite Soil

(d) Peaty Soil.

Answer:

(c) Laterite Soil

Question 11.

Which soils are also called Usara soils?

(a) Alluvial Soil

(b) Black Soil

(c) Laterite Soil

(d) Peaty Soil.

Answer:

(d) Peaty Soil

Question 12.

What percent of India is covered with alluvial soils?

(a) 20%

(b) 30%

(c) 40%

(d) 50%.

Answer:

(c) 40%

Question 13.

Which of the following is not a feature of black soil?

- (a) It is suitable for the cultivation of cotton.
- (b) It has more capacity of absorbing moisture.
- (c) It becomes loamy and sticky when wet.
- (d) It has high iron content.

Answer:

(d) It has high iron content

Question 14.

Finger gullies can be eliminated by:

- (a) Terracing
- (b) Contour bunding
- (c) Regulated forestry
- (d) Controlled grazing.

Answer:

(a) Terracing

Question 15.

The country is losing about how much hectares of land to ravines every year?

- (a) 6000 hectares
- (b) 7000 hectares
- (c) 8000 hectares
- (d) 9000 hectares.

Answer:

(c) 8000 hectares

Question 16.

What is the full form of CAZRI?

- (a) Central Arid Zone Research Institute
- (b) Central Arid Zone Reproduction Implementation
- (c) Central Agriculture Zone Research Institute
- (d) Central Alluvial Zone Research Institute.

Answer:

(a) Central Arid Zone Research Institute.

### **Class 11 Geography Chapter 6 Very Short Answer Type Questions**

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Question 1.

Mention physical features of soil.

Answer:

In physical features of soil, important are colour, texture, composition, capacity to absorb moisture, erosion, depth, structure, slope of land and density.



Question 2.

What is a ravine?

Answer:

Gullies deepen with rainfall, cut the agricultural lands into small fragments and make them unfit for cultivation. These are called ravines.

Question 3.

On which physical factors does fertility of soil depend?

Answer:

Many physical factors affect fertility of soil. Size of particles, nature and composition, result of its holes, form and depth of soil, flow and storage of water depends on nature of soil. Composition of soil determine its ability to nurture the plants.

Question 4.

How is climate helpful in soil formation?

Answer:

Climate especially rainfall plays an important role in soil formation. It determines the nature of weathering, amount of water absorption, particles of humus and types of micro organism.

Question 5.

How does topography affect the process of soil formation?

Answer:

Slope determines the flow of water and soil erosion. Therefore, places of gentle slope have better soil development. Even fertility of soil depends on slope. It is so because steepness of slope reduces the rate of soil erosion.

Question 6.

In how many groups has Indian Agriculture Research Institute divided soils? Also name them.

Answer:

On the basis of genesis, colour, composition and location, the soils of India have been classified into eight groups by Indian Agriculture Research Institute. These are:

- Alluvial soils
- Black soils
- Red and Yellow soils
- Laterite soils
- Arid soils
- Saline soils
- Peaty soils
- Forest soils.

Question 7.

What factors are responsible for soil erosion and degradation?

Answer:

Running water, wind, snow, animals and human activities are responsible for soil erosion and degradation.

Question 8.

What are bad effects of soil erosion?

Answer:

There are many bad effects of soil erosion. Some of these are: removal of fertile soil; sudden outflow of destructive floods, cut the agricultural lands into small fragments and make them unfit for cultivation, reduction in moisture of soil etc.

Question 9.

Why is saline soil infertile?

Answer:

Saline soils are infertile because:

- They contain a larger proportion of sodium, potassium and magnesium, and
- They have more salts, largely because of dry climate and poor drainage.

Question 10.

Why is the colour of red and yellow soil red and yellow?

Answer:

The soil develops a reddish colour due to a wide diffusion of iron in crystalline and metamorphic rocks. It looks yellow when it occurs in a hydrated form.

Question 11.

On what basis has Indian Agriculture Research Institute divided soils?

Answer:

Indian Agriculture Research Institute has classified Indian soils on the basis of genesis, colour, composition and location,

Question 12.

How is soil useful for us?

Answer:

Soils nurture plants and animals. It is an important resource without which we cannot get our food.

### **Class 11 Geography Chapter 6 Short Answer Type Questions**

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Question 1.

Explain the features of alluvial soils.

Answer:

Alluvial Soil:

- It is the most important type of soil found in India covering about 40 per cent of the total land area. It is very fertile and contributes to the largest share of agricultural wealth. This soil supports nearly half of the Indian population.
- The alluvial soils contain adequate potash, phosphoric acid and lime. Therefore, it is very fertile.

- They are generally deficient in organic and nitrogenous contents.
- The fine particles of sand, silt and clay are called alluvium. The alluvial soil can be divided into old alluvium, also called bhangar, and new alluvium, called khadar. Remember, the new alluvium can be about ten thousand years old.
- The old alluvium often contains lime nodules, known as kankar.
- The fertility of the alluvial soil varies from place to place. Due to its softness and fertility, alluvial soil is most suited to irrigation and can produce bumper crops of rice, wheat, maize, sugarcane, tobacco, cotton, jute, oilseeds, etc.

#### Question 2.

Explain about the features of red and yellow soil.

Answer:

The red and yellow soil occupies about 10 per cent area of India, mostly in the south-eastern part of the Peninsular India. This area encircles the entire black soil region. The red and yellow soil is found in Tamil Nadu, parts of Karnataka, south-east Maharashtra, eastern parts of Andhra Pradesh, Madhya Pradesh, Orissa and Jharkhand.

- Most of the red and yellow soil has been formed due to weathering of igneous and metamorphic rocks.
- The red colour is due to the high percentage of iron contents.
- The texture of the red and yellow soil varies from sandy to clayey, and the majority being loamy.
- On the uplands, the red and yellow soil is thin, poor, and porous and has loose gravel.
- In the lower areas, the soil is deep, rich, fine grained and fertile.
- This soil is rich in potash, but poor in lime, phosphate, nitrogen and humus. With proper doses of fertilizers and irrigation the red and yellow soils can give excellent yields of cotton, wheat, rice, pulses, millets, tobacco, oilseeds, etc.

#### Question 3.

Explain about the features of peaty and humus soil.

Answer:

Features:

- They are found in the areas of heavy rainfall and high humidity, where there is a good growth of vegetation.
- Large quantity of dead organic matter accumulates in these areas, and this gives a rich humus and organic content to the soil.
- Organic matter in these soils may go even up to 40-50 per cent.
- These soils are normally heavy and black in colour.
- At many places, they are alkaline also.
- It occurs widely in the northern part of Bihar, southern part of Uttaranchal and the coastal areas of West Bengal, Orissa and Tamil Nadu.

Question 4.

How has Indian Council Agricultural Research Institute classified soils?

Answer:

ICAR has classified the soils of India into the following order as per the USD A soil taxonomy

Sl.No.	Order	Percentage
(i)	Inceptisols	39.74
(ii)	Entisols	28.08
(iii)	Alfisols	13.55
(iv)	Vertisols	8.52
(v)	Aridisols	4.28
(vi)	Ultisols	2.51
(vii)	Mollisols	0.40
(v)	Others	2.92
	Total	100.00

Question 5.

Explain about saline soils.

Answer:

Saline soils contain a larger proportion of sodium, potassium and magnesium. Therefore, they are infertile, and do not support any vegetative growth. They are also known as Usara soils. They have more salts, largely because of dry climate and poor drainage. They occur in arid and semi-arid regions, and in waterlogged and swampy areas. They lack in nitrogen and calcium. Saline soils are more widespread in western Gujarat, deltas of the eastern coast and in Sunderban areas of West Bengal. In the Rann of Kuchchh, the South-west monsoon brings salt particles and deposits there as a crust. Seawater intrusions in the deltas promote the occurrence of saline soils.

Question 6.

Differentiate between:

1. Light soil and heavy soil
2. Gentle slope and steep slope
3. Soil erosion and soil degradation

Answer:

1.

Basis	Light Soil	Heavy Soil
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Meaning	Light soils contain a very high proportion of sand, which contains few plant nutrients. They easily dry out, when the surface layer is easily blown away.	Heavy soils are those with a large component of clay in them, because the clay particles bind together to form a heavy, sticky lump which is difficult to dig.
Water Content	Because it is composed of so many fine particles which stick together easily, it is liable to compaction. It holds a lot of water and easily becomes waterlogged, so it is cold and wet in spring, and takes a long time to warm up.	Light soils drain quickly and do not hold water. They are often acidic. Since these soils do not hold water, they are warm and dusty.
Improvement	Heavy clay soils can be improved by adding humus or other organic matter and sharp sand for better drainage.	Light soils can be improved by adding plenty of organic matter in the form of garden compost or farmyard manure to give body and encourage moisture retention.

2.

Basis	Gentle Slope	Steep Slope
Meaning	Slope of 5% of the land is called gentle slope.	Slope of 10% of the land is called steep slope.
Waterlogging	Steep slopes in the headwaters of drainage basins tend to generate more runoff than do lowland areas. Mountain areas tend to receive more precipitation overall because they force air to be lifted and cooled.	On gentle slopes, water may temporarily pond and later soak in.
Speed of water movement	On gentle slopes water tends to move slowly. Soils tend to be thicker, more infiltration can occur.	On steep mountainsides, water tends to move downward more rapidly. Soils tend to be thinner on steep slopes, limiting storage of water, and where bedrock is exposed, little infiltration can occur.

3.

Basis	Soil Erosion	Soil Degradation
Meaning	Destruction of soil cover is called soil erosion.	Soil degradation is decline in soil fertility when the nutritional status declines and depth of the soil goes down.

Causes	It happens due to action of running water, wind, deforestation etc.	It happens as a result of soil erosion and misuse of land.
Remedies	Forestation, check open cultivable lands on slopes from farming, preventing over grazing, etc.	Lesser use of chemical fertilizers, land use planning, terrace farming, etc.

### Class 11 Geography Chapter 6 Long Answer Type Questions

Question 1.

Explain about the regions affected by soil erosion.

Answer:

West Bengal, Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, Delhi, Rajasthan and in many parts of the country soil erosion has been a big problem. In mountain regions, there is erosion due to over grazing. In Meghalaya and Nilgiri hills due to potato cultivation and in Himalaya region due to deforestation, soil erosion is increasing. Wind erosion is significant in arid and semi-arid regions.

In regions with heavy rainfall and steep slopes, erosion by running water is more significant. Water erosion which is more serious and occurs extensively in different parts of India, takes place mainly in the form of sheet and gully erosion. Gully erosion is common on steep slopes. Ravines are widespread, in the Chambal basin. Besides this, they are also found in Tamil Nadu and West Bengal. The country is losing about 8,000 hectares of land to ravines every year.

Question 2.

Explain about causes responsible for soil erosion.

Answer:

Following causes are responsible for soil erosion:

- 1. Human Activities:** Human activities too are responsible for soil erosion to a great extent. As the human population increases, the demand on the land also increases. Forest and other natural vegetation is removed for human settlement, for cultivation, for grazing animals and for various other needs. Wind and water are powerful agents of soil erosion because of their ability to remove soil and transport it.
- 2. Deforestation:** Deforestation is one of the major causes of soil erosion. Plants keep soils bound in locks of roots, and thus, prevent erosion. They also add humus to the soil by shedding leaves and twigs. Forests have been denuded practically in most parts of India but their effect on soil erosion are more in hilly parts of the country.
- 3. Wind and water:** Wind erosion is significant in arid and semi-arid regions. In regions with heavy rainfall and steep slopes, erosion by running water is more significant. Water erosion which is more serious and occurs extensively in different parts of India, takes place mainly in the form of sheet and gully erosion. Sheet erosion takes place on level lands after a heavy shower and the soil removal is not easily noticeable.

### Question 3.

In India, fertility of soil is also destroyed by over irrigation. Explain.

Answer:

A fairly large area of arable land in the irrigated zones of India is becoming saline because of over-irrigation.

- The salt lodged in the lower profiles of the soil comes up to the surface and destroys its fertility.
- Chemical fertilisers in the absence of organic manures are also harmful to the soil.
- Unless the soil gets enough humus, chemicals harden it and reduce its fertility in the long run. This problem is common in all the command areas of the river valley projects, which were the first beneficiaries of the Green Revolution.
- According to estimates, about half of the total land of India is under some degree of degradation.

Every year, India loses millions of tonnes of soil and its nutrients to the agents of its degradation, which adversely affects our national productivity. So, it is imperative to initiate immediate steps to reclaim and conserve soils.

### Question 4.

Wind and water are two important agents of soil erosion. Explain.

Answer:

Wind and water are powerful agents of soil erosion because of their ability to remove soil and transport it. Wind erosion is significant in arid and semi-arid regions. Erosion by running water is more significant in regions with heavy rainfall and steep slopes. Water erosion which is more serious and occurs extensively in different parts of India, takes place mainly in the form of sheet and gully erosion. Sheet erosion takes place on level lands after a heavy shower and the soil removal is not easily noticeable.

But it is harmful since it removes the finer and more fertile top soil. Gully erosion is common on steep slopes. Gullies deepen with rainfall, cut the agricultural lands into small fragments and make them unfit for cultivation. A region with a large number of deep gullies or ravines is called bad land topography. Ravines are widespread, in the Chambal basin. They are also found in Tamil Nadu and West Bengal. The country is losing about 8,000 hectares of land to ravines every year.

### Question 5.

Explain about laterite soils.

Answer:

The word 'laterite' has been derived from a Latin word 'later' meaning 'brick'. The laterite soil is widely spread in India and is mainly found on the summits of the Western Ghats, Eastern Ghats, Rajmahal Hills, Vindhya, Satpuras and Malwa plateau. It's well-developed in southern Maharashtra, and parts of Orissa, West Bengal, Karnataka, Andhra Pradesh, Kerala, Bihar, Assam and Meghalaya.

- The laterite soil is formed under conditions of high temperature and heavy rainfall with alternate wet and dry periods.



- Such climatic conditions promote leaching of soil. Leaching is a process in which heavy rains wash away the fertile part of the soil.
- The laterite soil is red in colour and composed of little clay and much gravel of red sandstones.
- Laterite soil generally is poor in lime and deficient in nitrogen. The phosphate contents are generally high.

Due to intensive leaching, the laterite soil generally lacks fertility and is of low value for crop production. But when manured and timely irrigated, the soil is suitable for producing plantation crops like tea, coffee, rubber, coconut, areca nut, etc. It also provides valuable building materials.

## Class 11 Geography Chapter 6 HOTS Questions

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Question 1.

Explain different types of soil erosion.

Answer:

Surface erosion: When rain, wind or frost detaches soil particles from the surface, the particles are washed or blown off the paddock.

1. Sheet erosion: This occurs when rain falls on bare or sparsely covered soil, loosening fine particles (silt, clay and humus) that are carried downhill in surface run-off. Sheet erosion lowers the fertility of the soil, because it removes the most productive layer, which has usually been enriched by fertiliser.

2. Wind erosion: The wind can remove the valuable fine soil on the land surface. Seasonally strong winds hit many areas, such as sand dunes, the Central Volcanic Plateau, Wairarapa, Hawke's Bay, Canterbury and Otago. If covering vegetation has been grazed or disturbed, wind erosion can be severe.

Fluvial erosion: This occurs when running water gouges shallow channels or deep gullies into the soil.

1. Rill erosion: On sloping land, particularly if cultivated, water run-off may gather in small V-shaped channels or rills. These are particularly evident in pumice soils or those formed from loess (wind-blown dust), but can occur on all hill soils.

2. Gully erosion: Gully erosion occurs on unconsolidated subsoils. These are generally deep and generate a lot of sediment, which often feeds into rivers. Gullies tend to erode at their head, eating back into the landscape. They are widespread throughout the country. In the 1950s, there was serious gully erosion in sandstone at Pohangina in the Manawatu. Severe gully erosion also developed in pumice soils on the Volcanic Plateau when pastures were first sown.

Question 2.

Name the soil which is:

1. Most fertile



2. Most infertile
3. Called regur soil
4. Used for making bricks

Answer:

1. Alluvial Soil
2. Saline Soil
3. Black Soil
4. Laterite Soil

Question 3.

Different regions exhibit different types of erosion. Substantiate.

Answer:

It is right to say that different regions exhibit different types of erosion.

- Wind erosion is significant in arid and semi-arid regions.
- In regions with heavy rainfall and steep slopes, erosion by running water is more significant.
- Water erosion which is more serious and occurs extensively in different parts of India, takes place mainly in the form of sheet and gully erosion.
- Sheet erosion takes place on level lands after a heavy shower and the soil removal is not easily noticeable.
- Ravines are widespread, in the Chambal basin. Besides this, they are also found in Tamil Nadu and West Bengal. The country is losing about 8,000 hectares of land to ravines every year. .

Question 4.

How were soils classified in ancient times?

Answer:

In ancient times, soils used to be classified into two main groups –

1. Urvara and
2. Usara

Urvara was fertile land and Usara was sterile land.

In the 16th century A.D., soils were classified on the basis of their inherent characteristics and external features such as texture, colour, slope of land and moisture content in the soil. Based on texture, main soil types were identified as:

1. Sandy
2. Clayey
3. Silty and loam, etc.

On the basis of colour, they were red, yellow, black, etc.

Question 5.

What is soil made of?

Answer:

Initially, all over the planet, small pieces of rock broke off mountains and fell, breaking into smaller pieces as they went, so that at the bottom of mountains, heaps of rocks, stones and dust formed. Plants were able to take root in this, and when these plants died and decayed they added to the pockets of soil. Eventually, much of the planet was covered with soil, its exact composition determined partly by the type of rock in the area and by the local weather conditions.

So, all soil is composed of small pieces of the local rock and decayed vegetable or animal matter. The rock particles are classified on the basis of their size:

1. Clay is the smallest particles of broken rock in soil, less than .0002mm in diameter, so it is a fine dust. When wet, the individual particles stick together to form a solid mass. When they dry, they can bake to a hard crust. Clay holds water which does not drain away.
2. Silt is slightly larger pieces of rock than clay. It is also soft and smooth, with individual pieces close together. It too holds a lot of water, but the slightly larger particles make it a little better at draining than clay. Silt is often found in river estuaries because the fine particles are washed downstream and deposited when the water flows more slowly.
3. Sand is small pieces of rock (2mm to .05mm diameter) such as quartz or sandstone. Sand particles are large enough to allow water to drain easily, but they do not hold water and are easily blown around when dry.
4. Stones, rocks and boulders are larger pieces of rock which are too big to form part of the soil but are found in many gardens. Under the surface layer of soil, they can help drainage.

### **Class 11 Geography Chapter 6 Value Based Questions**

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Question 1.

Green revolution is bringing salinity in the soil. How?

Answer:

In the areas of intensive cultivation with excessive use of irrigation, especially in areas of green revolution, the fertile alluvial soils are becoming saline. Excessive irrigation with dry climatic conditions promotes capillary action, which results in the deposition of salt on the top layer of the soil. In such areas, especially in Punjab and Haryana, farmers are advised to add gypsum to solve the problem of salinity in the soil.

Question 2.

What kind of steps have been taken by Central Soil Conservation Board, set up by the Government of India?

Answer:

The Central Soil Conservation Board, set up by the Government of India, has prepared a number of plans for soil conservation in different parts of the country.

- These plans are based on the climatic conditions, configuration of land and the social behaviour of people. Even these plans are fragmental in nature.
- Integrated land use planning is the best technique for proper soil conservation.
- Lands should be classified according to their capability; land use maps should be prepared and lands should be put to right uses.
- The final responsibility for achieving the conservation of land will rest on the people who operate on it and receive the benefits. .

### Map Skill

Question 1.

Locate one region where the following soil are found.

1. Arid Soil
2. Black Soil
3. Alluvial Soil
4. Red and Yellow Soil
5. Forest Soil.

Answer:

1. Rajasthan
2. Maharashtra
3. Northern Plains
4. Karnataka, Andhra Pradesh
5. Himalayan regions in Jammu and Kashmir.

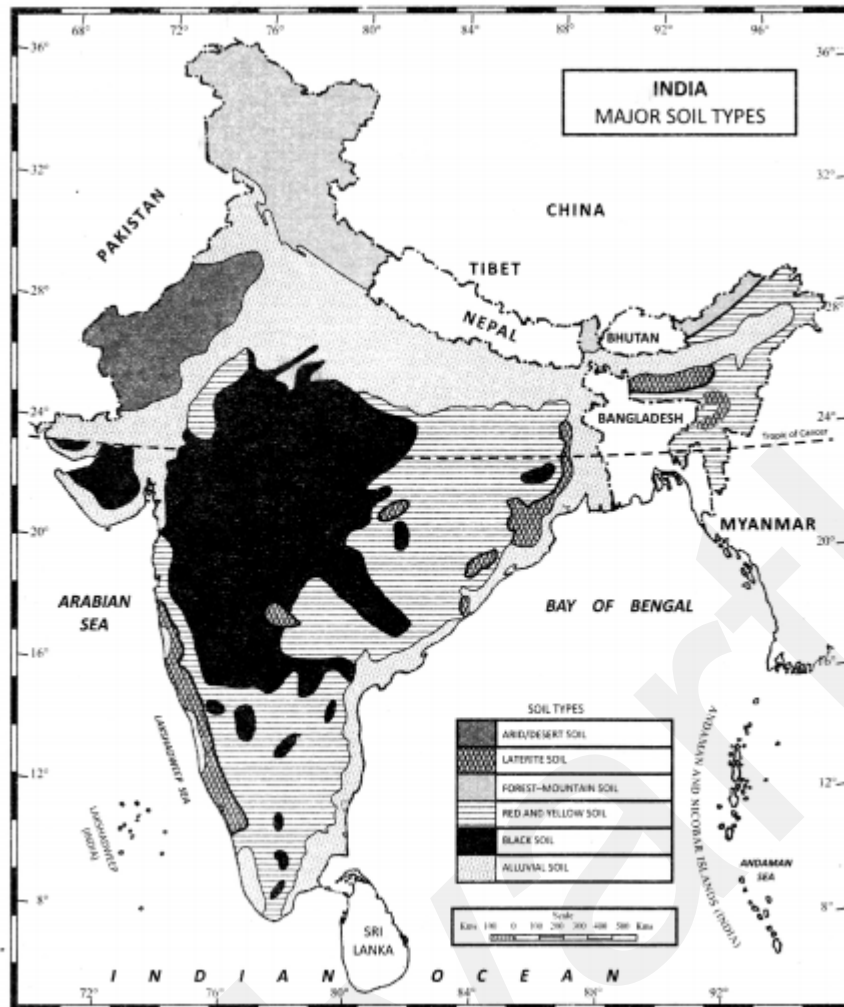


Fig: Major soil types of India.