

GEOGRAPHY



iOTA Classes

Class 10th

CHAPTER:- 01

RESOURCES AND DEVELOPMENT

Hand Written Notes



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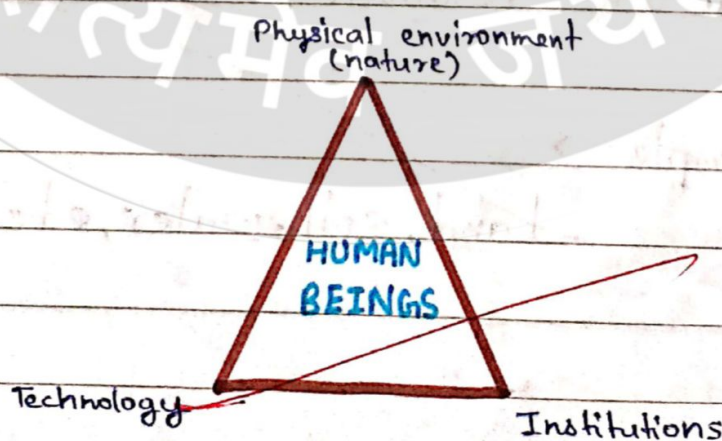
RESOURCES and DEVELOPMENT

• What is resources?

→ Everything available in our environment which can be used to satisfy our needs, provided it is technologically accessible, economically feasible and culturally acceptable can be termed as 'Resource'.



• Interdependent relationship between Human, nature & Technology.



- Resources are present in nature.



Use of technology for extracting



manufacturing / making product.

Types of Resources.

1. On the basis of origin.

(a) Biotic →

Biotic refers to the living things. Biotic resources are those which contain organic matter and have life.

For example →

Animals, plants, fisheries, livestock, etc.

(b) Abiotic →

Abiotic means non-living. Hence, the resources which are non-living in nature are called abiotic resources.

For example →

Land, soil, water, etc.



2. On the basis of exhaustibility / Durability.

(a) Renewable Resources →

These are the resources which do not get exhausted over time even after continuous usage. These resources get renewed and replenished quickly.

For example →

Wind energy, Solar energy, tidal energy, geothermal energy, Biomass, etc.

(b) Non-renewable Resources →

The resources which are exhaustible and non-renewable in nature are categorised under this. These resources get finished with usage. It takes millions of years for them to regenerate.

For example →

Coal, Petroleum, Natural gas, fossil fuels, oil, minerals, ~~Petro~~ Metals, Nuclear fuels, etc.



3. On the basis of ownership.

(a) Individual Resources →

Resources owned privately by individuals, such as land, houses, plots, and other property.

(b) Community Resources →

Any assets accessible to all community members, including people, places, activities and thus that provide services, such as public parks, libraries or community centres.

(c) National Resources →

The resources that belong to the people of a country and are managed by the government, including land, water, minerals, forests within its borders.

(d) International Resources →

Resources like the open ocean beyond 200 nautical miles from a country's coastline, that are governed by international organisation and not controlled by any single nations.



4. On the basis of status of development.

(a) Potential Resources →

Resources that exist in a region but are not yet being utilized,

Example - vast areas of solar and wind energy in India the haven't been explored yet.

(b) Development Resources →

Resources that have been surveyed, developed and are currently being used, with their quantity and quality defined for utilization such as petroleum and coal.

(c) Stock Resources →

Resources that have the potential to be used but currently lack the technology to be utilized. These resources exist in the environment but are not readily accessible or developed.

(d) Reserved Resources →

Those resources that are part of the existing stock, meaning they are present in the environment, but are not currently being used despite having potential to be utilized with existing technology in the near future. They are reserved for future use.



Development of Resources.

Ques What do you mean by Sustainable development?

Answer: Sustainable development means the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

• Works of Sustainable development...

① Balancing economic growth, environmental care & social well-being.

② Encourage the Judicious use of resources.

③ Aims for long-term prosperity.

Examples → Using water, forests, fossil fuels, etc wisely.

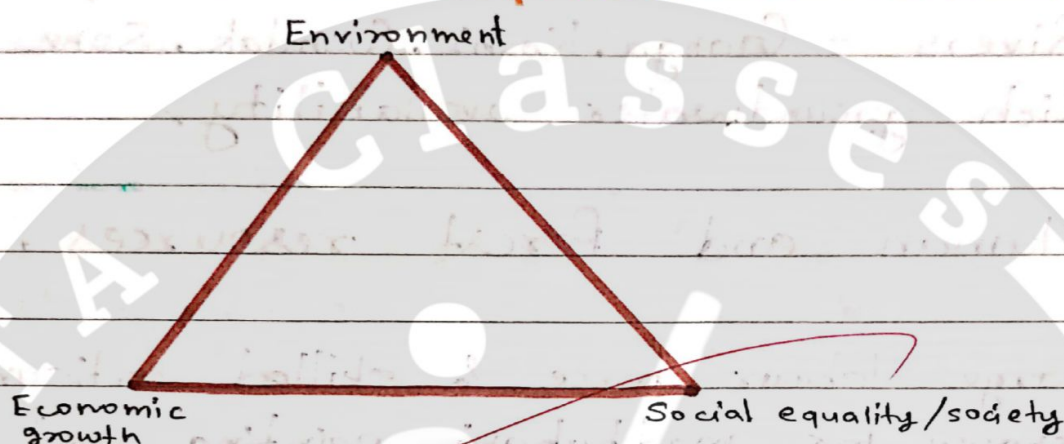
Agenda 21...

→ It is the declaration signed by world leaders in 1992 at the United Nations Conference on Environment and Development (UNCED),



which took place at Rio de Janeiro, Brazil. Its aim was to achieve sustainable development at the global level and to combat environmental damage.

- There are three pillars of SDG.



V.V.I

Activity - Prepare a list of resources found in your state and also identify the resources that are important but deficit in your state.

⇒ Natural Resource in Bihar.

- ① Coal - Kibhalgaon (Bhagalpur), Rajmahal (Jharkhand)
- ② Limestone - Rohtas, Kaimur,
- ③ Mica - Gaya, Nawada,
- ④ Granite - Gaya, Rohtas,
- ⑤ China clay - Bhagalpur, Munger,



⇒ Agriculture and Water Resources.

- ① Fertile alluvial soil in Gangetic plains.
- ② Crops : Rice, wheat, maize, sugar cane.
- ③ Horticulture — litchi (Muzaffarpur), Mangoes.
- ④ Rivers — Ganga, Koshi, Gandak, Sone etc.
- ⑤ Rich groundwater availability.

⇒ Human and forest resources.

- ① large labour force & skilled artisans,
- ② known for madhubani painting and handloom work.
- ③ forest cover is limited.
- ④ Produces bamboo, medicinal plants etc.

↳ ① Deficit Resources in Bihar.

- ① No major iron and ore, crude oil or gas reserve.
- ② low grade bauxite only.
- ③ Insufficient power supply and infrastructure & thermal power, etc.
- ④ low use of Hydropower and solar energy.
- ⑤ Underdeveloped industries.
- ⑥ Poor irrigation and rural transport system.
- ⑦ low forest cover and limited biodiversity.



Note :-

Thus Bihar needs better Resource management,

Resources planning in India.

- ① Identification
- ② Skilled labour / Technology / Industry.
- ③ Matching present goal / Policy to overall national development,

- The availability of resources is a necessary condition for the development of any region.
- Technology and institutions is also important for the development of any region.

Conservation of Resource. Why?

- ① Over-utilisation,
- ② Irrational consumption,
- ③ Socio-economic and environmental problem,

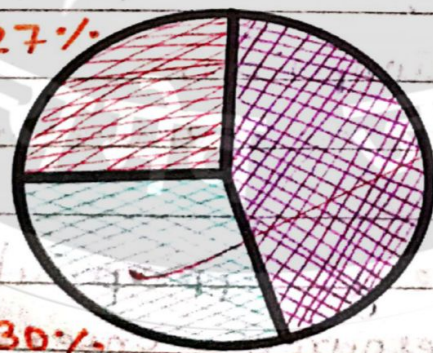
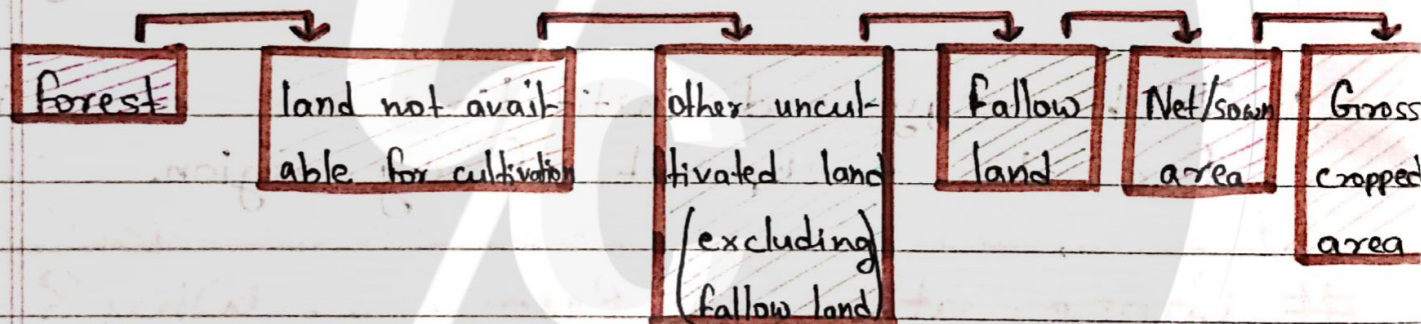
- Gandhiji was very appropriate in voicing his concern about resource conservation in these words "There is enough for everybody's need and not for any body's greed."



- The club of Rome advocated resource conservation for the first time in a more systematic way in 1968.
- In 1974, Gandhian philosophy was once again presented by Schumacher in his book *Small is Beautiful*.
- The seminal contribution with respect to resource conservation at the global level was made by the Brundtland Commission Report, 1987.

Land Resources

Land utilisation



Plains



Mountains



Plateaus

★ India's geographical area comprises a variety of relief features which are :-

1. 43 percent plain land area for agriculture and industry.
2. 27 percent plateaus which is source of minerals, fossil fuels and forests.
3. 30 percent mountains which provide perennial river water and sites for tourism and ecological aspects.

Question Find out reasons for the low proportion of net sown area in these states.

Answers The main reasons for the low proportion of net sown area in Arunachal Pradesh, Mizoram, Manipur and Andaman & Nicobar Islands are

- a. Hilly mountains terrain
- b. Dense forest covered
- c. Shifting cultivation (Jhum Farming)
- d. Low population density
- (e) e. Poor infrastructure
- (f) f. Heavy rainfall & soil erosion (land degradation)



Land Degradation and conservation measures.....

- Some of the causes of land degradation are as follows,

- Deforestation
- Over grazing (animal destroy vegetation)
- Over irrigation (in dry area, causes water logging & salinity)
- Mining activity (leave land barren & polluted)
- Quarrying
- Industrial waste (chemical pollute the soil).

- Conservation measures...

- Afforestation (Planting more tree)
- Proper irrigation methods (drip or sprinkler system)
- Contour ploughing and terrace Farming.
- Waste management.
- Sat Stabilisation of sand dunes by growing thorny bushes.
- Control of mining activities.



Soil as a Resource

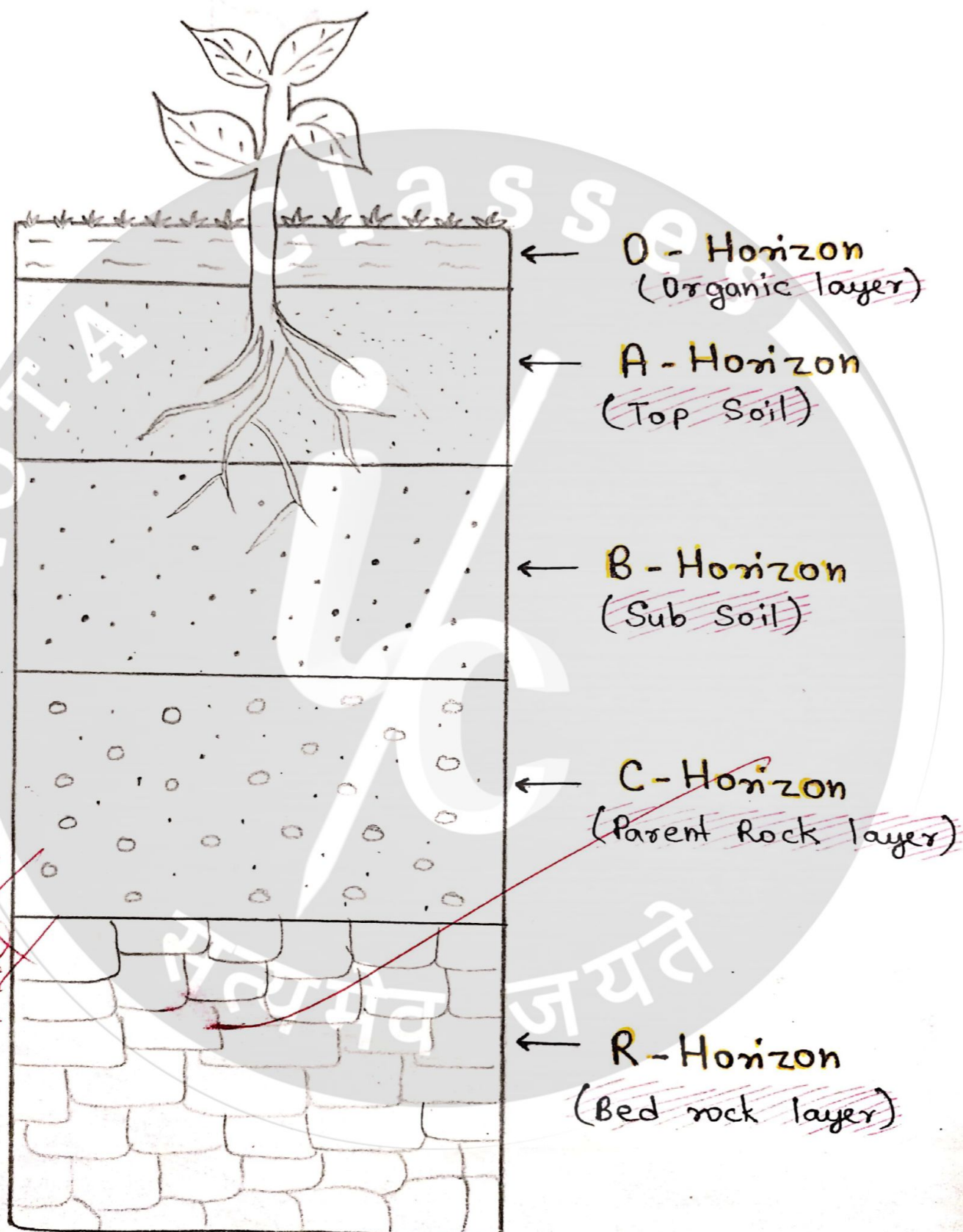
* Some features of soil are :-

- a. Soil is a living system and supports different types of living organisms.
- b. The important factors in the soil formation are relief, parent rock or bed rock, climate, vegetation and forms of life.
- c. Forces of nature such as change in temperature, actions of running water, wind and glaciers, activities of decomposers, etc also contribute to soil formation.
- d. Soil consists of both inorganic and organic materials i.e. humus,



Soil Profile.....

O, A, B, C, R



1. O-Horizon (Organic layer)

- It is top most layer of soil.
- Contains organic matter like decompose leaves and plants.
- Found in forest region.
- dark in colour and rich in nutrients.

2. A-Horizon (Top soil)

- Also called humus rich layer.
- Mixture of organic matters and minerals.
- Plant roots are mainly found.
- Support most plant life.
- Important for agriculture.
- Most fertile layer.

3. B-Horizon (Sub soil)

- Below top-soil.
- Light in colour.
- Contains mineral leached from A-horizon like aluminium, clay, iron, etc.
- Less organic matter.
- Denser than topsoil.
- Roots of large tree may reach here.



4. C-Horizon (Parent Rock layer)

Parent rock →

- Types of rock from which soil is formed.
- It determines soil texture, mineral content, colour.

- Made up of partially weathered parent rock
- No organic matters found.
- Least biological activity.
- Important for soil formation.

5. R-Horizon (Bed rock layer)

- Solid unweathered rock found here.
- Foundation of all soil layer (act as the base for soil formation).
- Not suitable for plant growth.



* Classification of Soil.

1. Alluvial Soil.

- This is the most widely spread and important soil. The entire northern plains are made of alluvial soil.
- These have been deposited by three important Himalayan river system — the Indus, the Ganga and the Brahmaputra.
- This soil found in the regions like Indian Gangetic plains, Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Delta of Mahanadi, Godavari, Krishna, Kaveri, eastern coastal plain, Northern plain, Assam valley & some part of Rajasthan & Gujarat.
- The alluvial soil consists of various proportions of sand, silt and clay.

* Piedmont plains →

These are the plains found at the base of mountains and hills where river descent from higher elevation and deposit sediments.



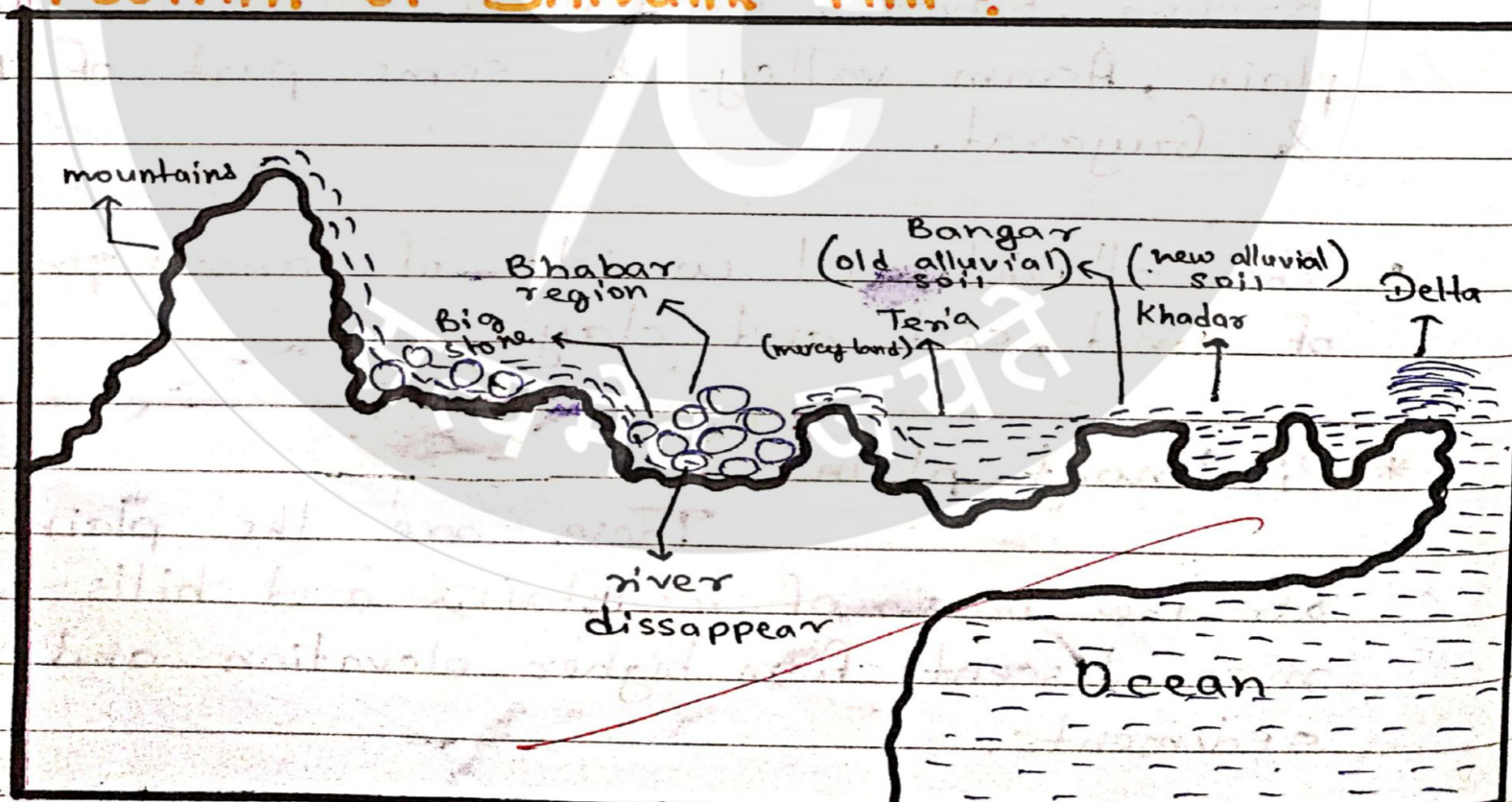
- It founds between hills or mountain and large plains,

Examples →

Duars, Chos and Terai,

- Bangar soil has higher concentration of kanker nodules than the Khadar. It is know as old alluvial soil,
- Khadar soil is known as new alluvial soil, It has more fine particles and is more fertile than the bangar,

* Foothill of Shivalik Hill !



Black Soils →

- Black soil is known as black cotton soil or regur soil.
- Black soil is ideal for growing cotton and is also known as black cotton soil.
- It is found in the Deccan trap (Basalt) region and is made up of lava flows.
- It covers the plateau areas of Maharashtra, Saurashtra, Malwa, Madhya Pradesh, Chhattisgarh and also lies along the valleys of the Godavari and Krishna rivers.
- It is made up of extremely fine i.e. clayey material and suitable for growing cotton.
- It is rich in nutrients like calcium carbonate, magnesium, potash and lime, but is poor in phosphoric content.
- It develops deep cracks during the hot summer which helps in aeration of the soil.



Red and Yellow Soils...

- It is red in colour due to diffusion of iron particles into crystalline and metamorphic rocks in low rainfall areas of the Deccan trap plateau.
- It turns yellow when it occurs in a hydrated form.
- It is found in parts of Odisha, Chhattisgarh, Southern parts of Middle Ganga Plain and along the piedmont zone of the Western Ghats.

Laterite Soils.....

- The word laterite has been derived from the Latin word 'later' which means 'brick'.
- This soil develops in tropical and ~~sub-tropical~~ sub-tropical climate with alternative wet and dry season.

It is found mostly in Western Ghats region of Maharashtra, Odisha, some parts of West Bengal and North-East regions.



Arid Soil.....

Arid soil found in dry (arid) & semi-arid region with low rainfall & high temperature.

→ Formation → Formed by the weathering of rocks in dry climates, often accompanied by wind erosion.

→ Characteristics →

Colour - range from red to brown.

Texture - Sandy and coarse with low moisture content.

Fertility -

- low in organic matter & humus.

- Rich in soluble salt like calcium.

- deficient - Nitrogen & Phosphorus.

- In some area soil contains salt very high — common salt obtained by evaporation.

- lower horizon contain kankar (it restrict the infiltration of water)

→ State → Rajasthan (western part), Gujarat, some part of Punjab & Haryana.

→ Crops → Wheat, Bajra (millet), Barley, Pulses, Dates.



→ Limitations → Naturally infertile due to lack of moisture & organic matter.

- Water scarcity limits agricultural productivity.

* Note →

Kankar layer is hard, compact of calcium carbonate (CaCO_3) found below the surface of arid & semi arid soil.

- Appears as white chunks of lime called kankar.
- Found mainly in arid & laterite soil.

Forest soil.....

- Formation → found in hilly & mountainous regions by the accumulation of organic matter (decayed leaves, twigs & animal waste).
- Found in regions with dense forest cover & varied climate (from cold to tropical).



- Characteristics → from brown to dark brown.
- Texture → Loomy & silty in valley areas.

Loomy → • Balanced mix of sand, silt and clay.
• Fertile, Hold water well.

→ Coarse & grainy on slopes.

Coarse → rough particles like sand, small stones or gravel.

Grainy → Has a loose texture not smooth or fine.

Silty → • Contains fine, smooth particles.
• very fertile & hold moisture.
• feels soft or slippery in wet.

- Rich in humus, especially in wet & cold forests.
- In dry areas, forests soil may be poor & acidic.
- States → Himalayan region (Jammu & Kashmir, Himachal Pradesh, Uttarakhand), western & eastern ghats, north-eastern ghats, Nilgiris & central Indian hills.



- Crops → Tea, coffee, spices (cardamom, pepper), fruits (apple, plums etc), maize, barley, potatoes in cold areas.
- Advantage → Rich in organic matter (humus) in moist areas.
- Soil Supports forestry & horticulture.
- Limitations → Soil erosion is common due to steep slopes.
- Fertility decreases in dry forest region.

Soil erosion & Soil conservation →

Soil erosion is the removal of the top fertile layer of soil by natural agents (water erosion, wind erosion, glaciers) & human activities (deforestation, over-grazing, over irrigation, ~~un~~ unsustainable farming).

* Types of Soil erosion:—

1 Sheet erosion →

A thin ~~of~~ layer of soil is removed evenly from a large area by rainwater.



Example →

Like wiping off dust from a table (slow but spreads over a wide area).

2. Rill Erosion →

When rainwater forms small channels or rills on the land surface.

Example →

Like tiny streams cutting small line on soft soil.

3. Gully Erosion →

When rill become deeper & turn into large, deep cut in the land.

Example →

Like cracks or trenches, making the land unusable for farming. Example - Chambal valley.

4. Wind Erosion →

When strong wind blow away dry & loose soil, especially in deserts.

Example →

Like dust ~~blow~~ blowing away in a sand storm.



* Soil Conservation

↳ It refers to the protection & preservation of soil from erosion & degradation to maintain its fertility & productivity.

Methods of soil conservation

1. Contour Ploughing →

Ploughing along the contour lines to reduce water runoff.

2. Terrace Farming →

Making terraces on steep slopes to slow down the flow of water.

3. Strip cropping →

Growing crops in alternate strips to reduce erosion.

4. Afforestation →

Planting trees to prevent soil erosion by wind and water.



5. Shelter Belts →

Rows of trees planted to break wind speed & protect the soil.

6. Crop Rotation →

Growing different crops in succession to improve soil health.

Why ~~the~~ soil conservation is important: -

- (a) To Prevent loss of fertile topsoil.
- (b) Maintain ~~loss~~ soil fertility.
- (c) Supports sustainable agriculture.
- (d) Prevents floods & land degradation.



Answer the following questions in about 30 words.

(i) Name three states having black soil and the crop which is mainly grown in it.

Ans. - The three states having black soil and the crop which is mainly grown in it are:-

- Madhya Pradesh → Cotton
- Chhattisgarh → Tobacco
- Maharashtra → Sugarcane

(ii) What type of soil is found in the river deltas of the eastern coast? Give three main features of this type of soil.

Ans. - Alluvial soil is found in the river deltas of the eastern coast. The

* Three main features of this type of soil are :-

- It is very fertile,
- It contains adequate proportion of potash, lime and phosphoric acid.
- It is more alkaline in the drier areas.



(iii) What steps can be taken to control soil erosion in the hilly areas?

Ans. → The steps can be taken to control soil erosion in the hilly areas are following:-

(a) Afforestation →

This is done by planting trees,

(b) Terrace farming and contour ploughing →

This is

done across the hill slopes.

(c) Restricted grazing of animals →

Animals should be moved over different pastures so as to avoid erosion of soil.

(d) Plugging of gullies →

By this method, gully erosion can be prevented.

Answer the following questions in about 120 words.

(i) Explain land use pattern in India and why has the land under forest not increased much since 1960-61?

Ans. → Land resources in India are primarily divided into agricultural land, forest land, land meant for pasture



and grazing, land for other non-agricultural use (such as housing, roads and industry) and waste land (rocky, arid and desert areas),

- According to recent data available, (2014-15) the percentage of Net Sown Area (NSA) in India is about 45.5 % of the total reporting area, 23.3% is covered by forests and 3.38% is used for grazing.

- The rest is waste land with traces of miscellaneous cultivation.

* Land under forest has increased by only about 5 % since 1960-61 due to following reasons:-

- Improper use of forest land has degraded the available land area and made conservation of forests difficult.
- Human activities such as deforestation, mining and quarrying have contributed to the slow growth rate of forests.



(ii) How have technical and economic development led to more consumption of resources?

Ans. → The following technical and economic development have led to more consumption of resources:-

(a) Technological development has converted the subsistence agriculture to commercial agriculture and this has led to the over-utilisation of soil.

(b) Technological development has led to industrialisation which has increased the use of natural resources,

(c) Technological development has also improved the process of mining.

(d) The development of technology contributed to increase in production of quality goods and provision of better services to the people.

(e) Economic development has led to increasing ~~urbanisation~~ urbanisation and modernisation which demand more resources.



1. Mark and label the areas where Alluvial soil is found.
→ Indo-gangetic plain — Punjab, Haryana, U.P, Bihar, West Bent Bengal and some parts of Assam.
2. Mark and label the regions where Black soil is found.
→ Deccan Plateau — Maharashtra, M.P, Gujarat, parts of Andhra Pradesh and Tamil Nadu.
3. Red Soil.
→ Eastern and Southern parts — Tamil Nadu, Karnataka, Andhra Pradesh, Odisha and Chhattisgarh.
4. Arid Soil.
→ Rajasthan, parts of Gujarat and Haryana.
5. Laterite Soil
→ Western ghats and eastern ghats — Kerala, Karnataka, Tamil Nadu and parts of Odisha and W.B.
6. Mountain Soil
→ Himalayan region — Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.



7. Mark one region each where land degradation:-

- (i) Over-irrigation - Punjab or Haryana.
- (ii) Overgrazing - Gujarat or Rajasthan.
- (iii) Mining - Jharkhand or Odisha.

8. Mark area in Eastern India where laterite soil is formed.

→ Odisha, Tamil Nadu, Andhra Pradesh.

9. Mark any 2 states where Black soil is predominantly found.

→ Maharashtra, Madhya Pradesh.

10. Mark a red-soil region in South-East India.

→ Tamil Nadu, Andhra Pradesh, Odisha.

11. Locate a state with desert (arid) soil.

→ Rajasthan.

12. Mark a region where deforestation has caused land degradation.

→ Madhya Pradesh or Chhattisgarh.

13. Mark a mineral-rich area where mining has caused soil degradation.

→ Jharkhand or Chhattisgarh.



14. Mark 1 region known for sustainable land management
→ Punjab (for agricultural practices)

15. Locate one tribal-dominated region where traditional resource use is still practised.
→ Bastar region in Chhattisgarh.

