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# RESOURCE AND DEVELOPMENT

## INTRODUCTION

**SUBJECT : GEOGRAPHY**
**CHAPTER NUMBER: 01**
**CHAPTER NAME : RESOURCE AND DEVELOPMENT**



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# SOIL EROSION

- The denudation of the soil cover and subsequent washing down is described as soil erosion.
- The soil erosion is caused due to human activities like deforestation, over-grazing, construction and mining etc. Also, there are some natural forces like wind, glacier and water which lead to soil erosion.
- Soil erosion is also caused due to defective methods of farming.
- The running water cuts through the clayey soils and makes deep channels as gullies. The land becomes unfit for cultivation and is known as bad land. When water flows as a sheet over large areas down a slope and the topsoil is washed away, it is known as sheet erosion. Wind blows loose soil off flat or sloping land known as wind erosion.

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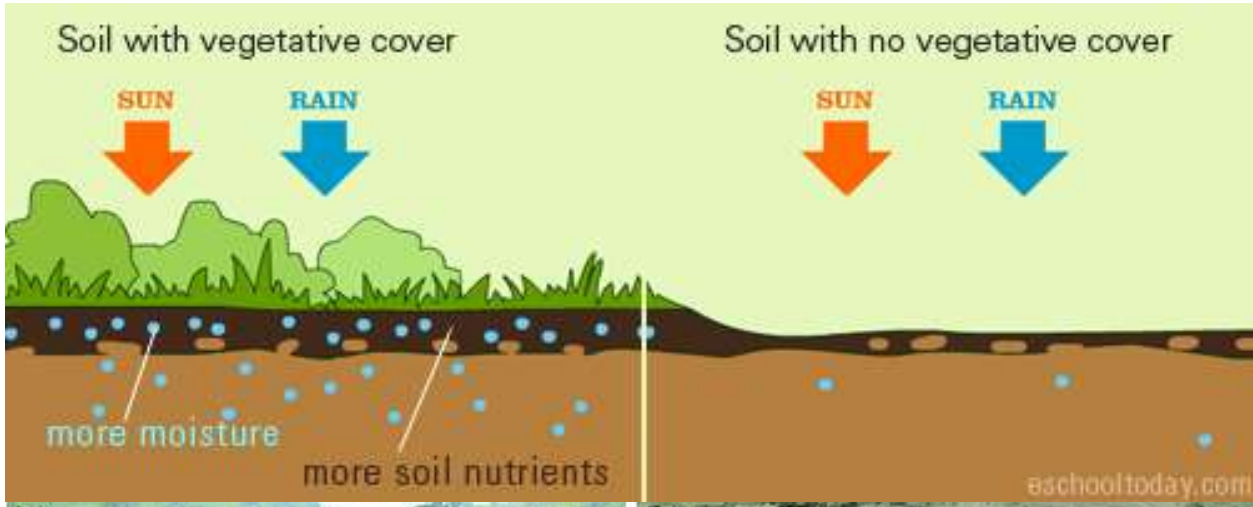
# Soil Erosion







# Problems caused by soil erosion:

1. Loss of valuable topsoil.
2. Burying valuable topsoil.
3. Damage to fields.
4. Plant productivity decline.
5. Desertification.

# Different Ways for Soil Conservation

- 1. Ploughing along the contour lines decelerate the flow of water down the slopes. This is called contour ploughing.
- 2. Terrace cultivation restricts erosion. This type of agriculture practice is done in western and central Himalayas.
- 3. When a large field is divided into strips and strips of grass are left to grow between the crops. Then, this breaks up the force of the wind. This method is known as strip cropping.
- 4. Planting lines of trees to create shelter helps in the stabilization of sand dunes and in stabilizing the desert in western India. Rows of such trees are called shelter belts.

# MULCHING

The open ground between plants is covered with a layer of organic matter like straw or peat to prevent loss of moisture from the soil. This process of conserving soil by retaining the moisture in the soil is called mulching.




# COUNTOUR BUNDING

On hill sides, stones are used to build barriers across the slope, following contours. (Contours are imaginary lines connecting places that lie at the same altitude)
Trenches are made in front of the barriers to collect water. This way of preventing soil erosion is called contour barrier or contour bunding.

# PLUGGING

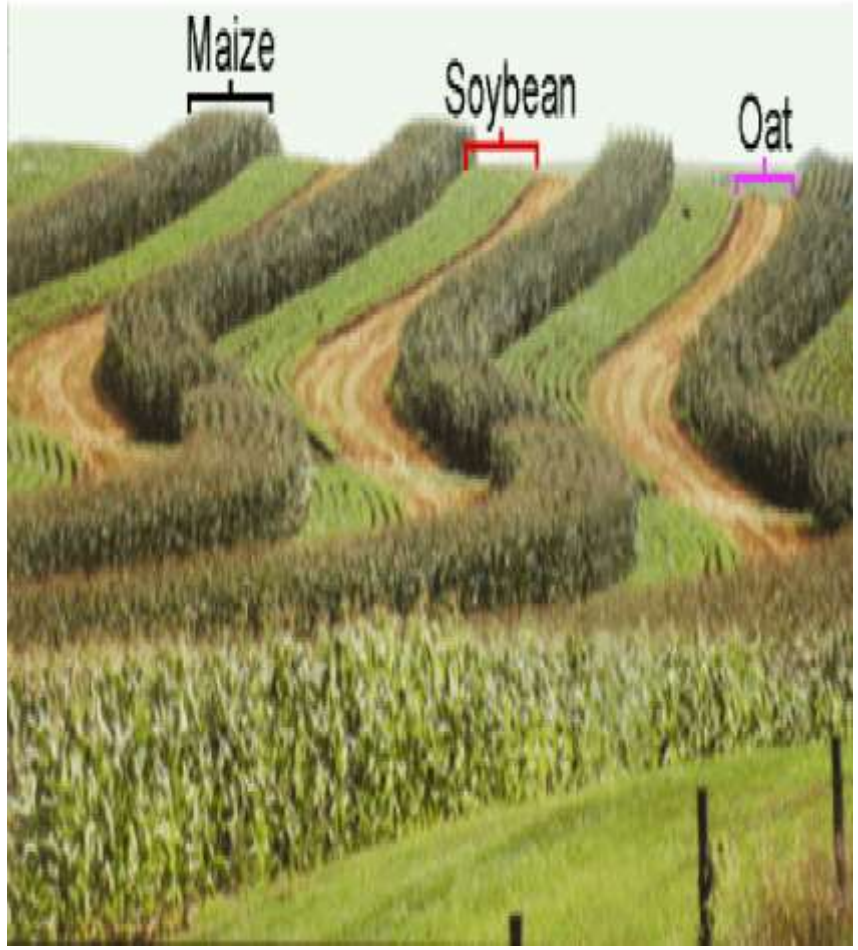
- Rocks are piled up to slow down the flow of water. This prevents erosion by pugging the gullies to prevent soil loss.

# TERRACE FARMING

Terraces are made on steep slopes so that flat surfaces are available to grow crops. The terraces reduce run-off and soil erosion. This method of conserving soil and utilising hill slopes to grow is called terrace farming.

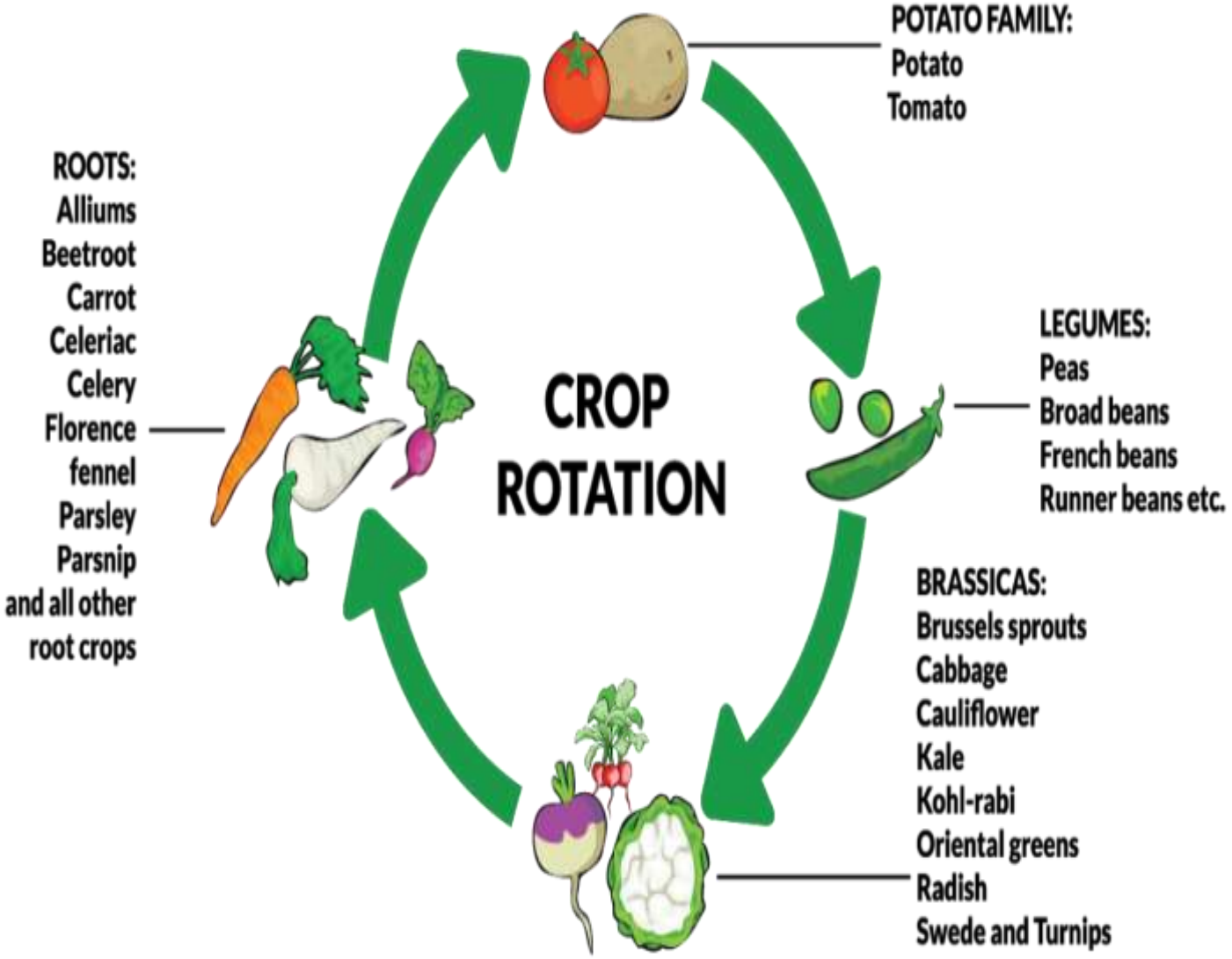
# INTERCROPPING

Intercropping refers to growing different crops in alternate rows and sown at different times, to protect the soil from rain wash.



# CROP ROTATION

Growing different crops in the same field one after the other .
Helps to conserve soil.



# SHELTER BELTS

In the coastal and dry regions, where winds of high speed can blow away the top soil, rows of trees are planted around farms. These trees check the wind, prevent soil erosion and act as shelter belts.

# Farming Methods that Reduce Soil Loss

**Strip Cropping**
Groundcover plants such as grasses are planted in strips between fields of crops. The strips of groundcover soak up rain and slow runoff.

**Windbreaks**
Rows of trees are planted between fields. The trees slow down the wind and reduce wind erosion.

**Terracing**
Step-like terraces are built on slopes. They prevent runoff from rushing downhill and carrying away the soil.

**Contour Cropping**
Crops are planted in curving rows to follow the contour of hills. This slows runoff and reduces erosion.

**No Till Planting**
Seeds are planted in the ground without first tilling (plowing) the soil. Dead plants from the previous crop remain on the ground. Their roots hold the soil in place.

**Cover Crops**
Fields are planted year-round, even in seasons when crops don't grow. The plants cover the soil and hold it in place.

# Soil conservation methods

(a) Terracing

(c) Alley cropping

(b) Contour planting and strip cropping

(d) Windbreaks

# Some images of soil conservation:

Mulching

Strip farming

Crop rotation

Dry farming

# Ten technics to conserve soil

Plant trees

Terraces

No-till farming

Contour ploughing

Crop rotation

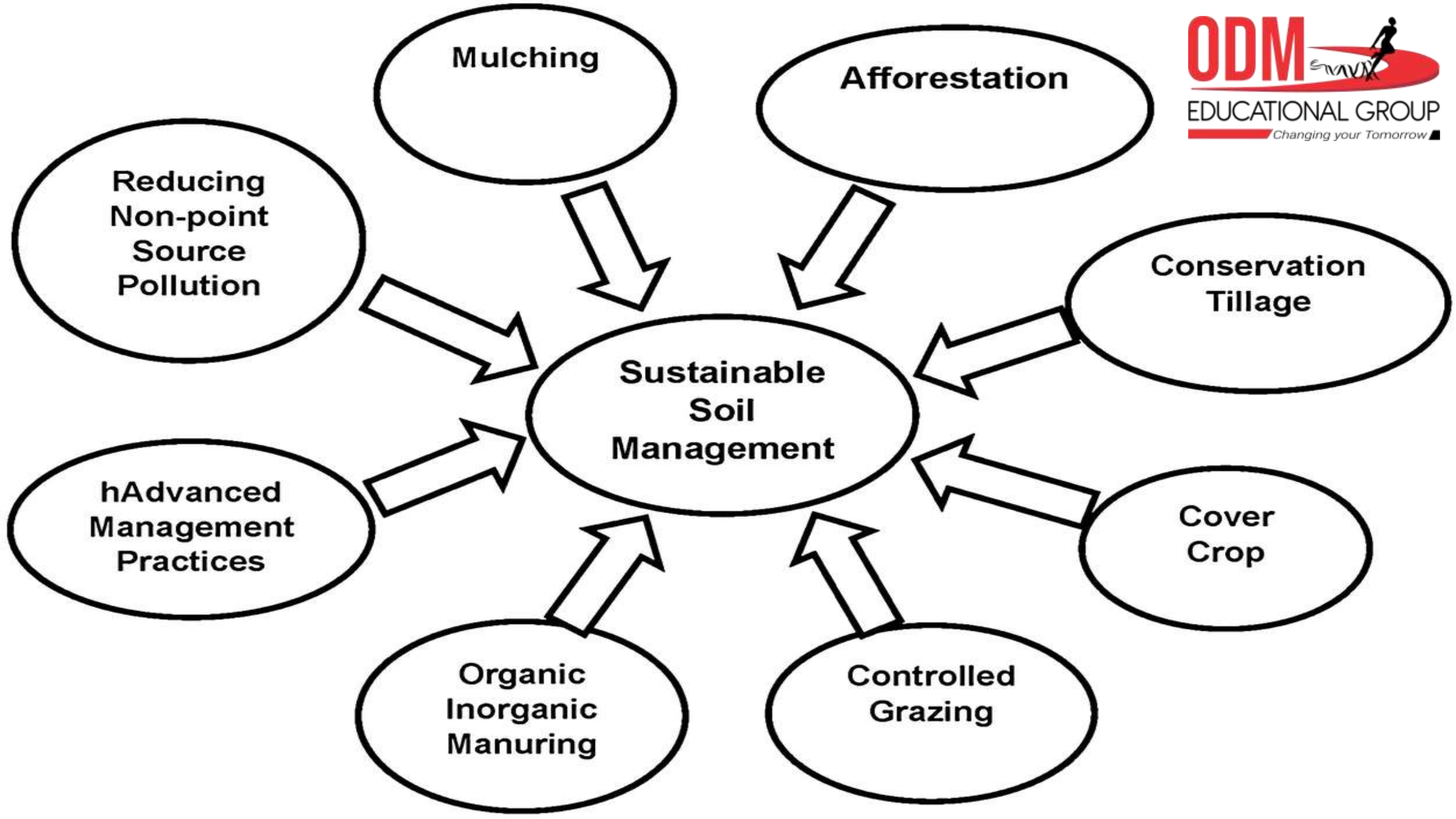
Soil pH

Water the soil

Salinity management crops

Soil organisms

Indigenous


Mulching
Afforestation
Reducing Non-point Source Pollution
Conservation Tillage
Sustainable Soil Management
hAdvanced Management Practices
Cover Crop
Organic Inorganic Manuring
Controlled Grazing

# TEXTBOOK EXERCISE

- 1. Multiple choice questions.

(I) Which one of the following type of resource is iron ore?

(A) renewable (c) flow (b) biotic (d) non-renewable

(ii) Under which of the following type of resource can tidal energy be put?

(a) Replenishable (c) abiotic (b) human-made (d) non-recyclable

(iii) Which one of the following is the main cause of land degradation in Punjab?

(A) intensive cultivation (c) over irrigation (b) deforestation (d) overgrazing

(iv) In which one of the following states is terrace cultivation practiced?

(a) Punjab (c) Haryana (b) plains of Uttar Pradesh (d) Uttaranchal

(v) In which of the following states is black soil found?

(A) Jammu and Kashmir (c) Rajasthan (b) Gujarat (d) Jharkhand

# QUESTIONS:-

- 2. Answer the following questions in about 30 words.
- (I) Name three states having black soil and the crop which is mainly grown in it.
- (Ii) What type of soil is found in the river deltas of the eastern coast? Give three main features of this type of soil.
- (Iii) What steps can be taken to control soil erosion in the hilly areas?

3. Answer the following questions in about 120 words.

- (I) Explain the land use pattern in India and why has the land under forest not increased much since 1960-61?
- (Ii) How have technical and economic development led to more consumption of resources?

# Home Assignment:-

1. What is soil erosion? How does running water led soil erosion?
2. Explain ways of soil conservation.
3. Which method is suitable to avoid soil erosion in the deserts?
4. Terrace farming, contour bunding are soil conservation methods for which areas ?
5. Mention some problems caused by soil erosion.

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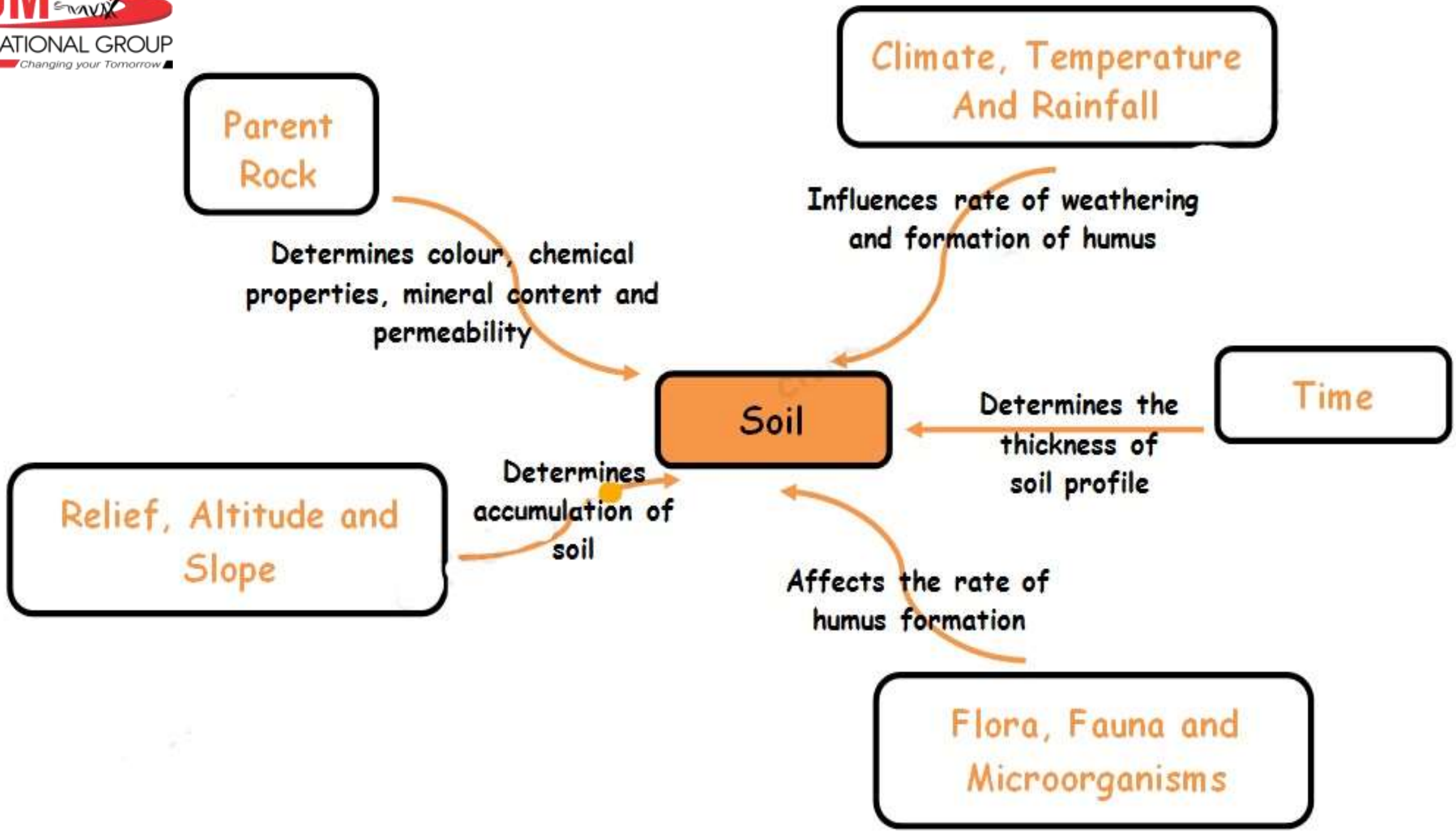
# CONTENTS:-

- SOIL AS Resource
- CLASSIFICATION OF SOILS
- SOIL EROSION
- CONSERVATION OF SOIL
- Discussion – Q/A

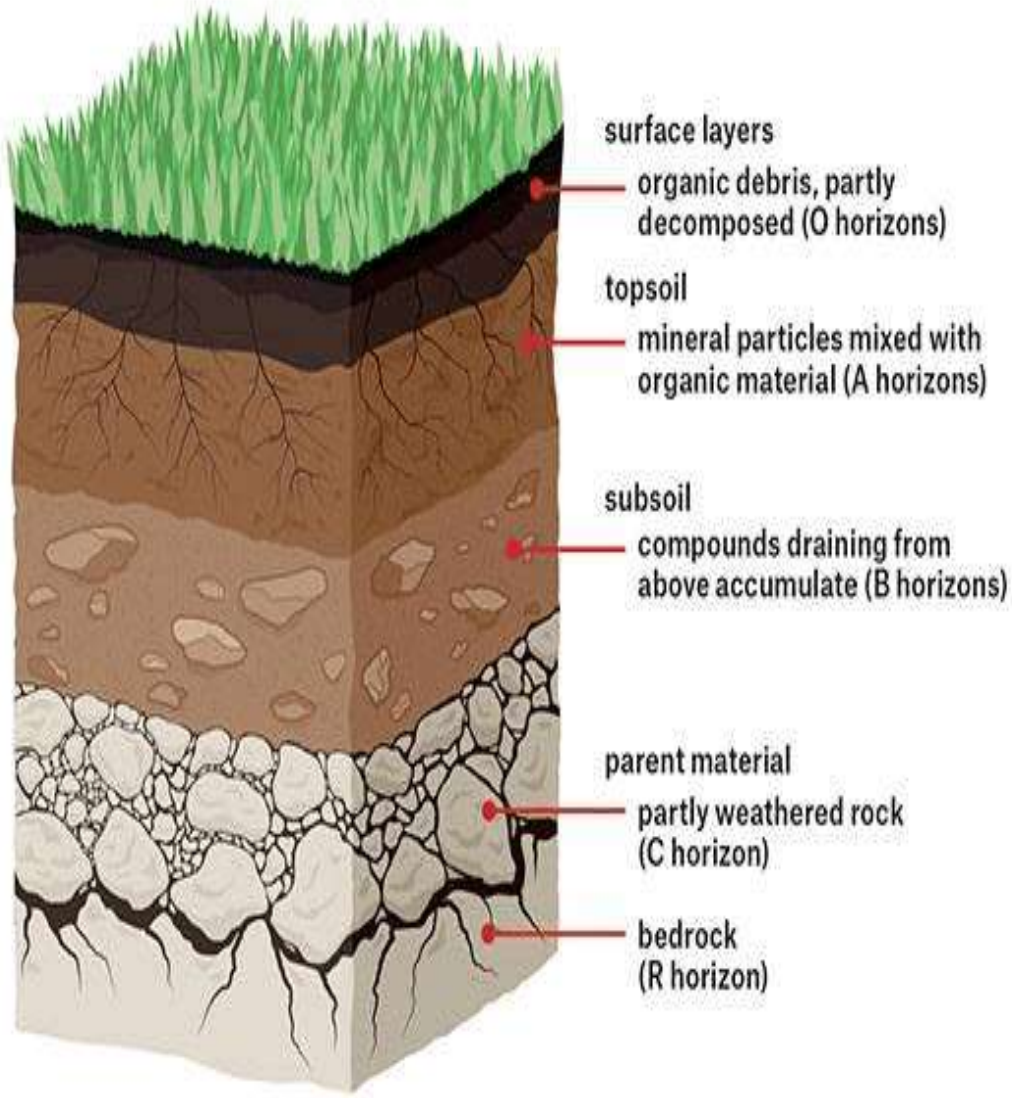
# SOIL AS A RESOURCE

- Soil is the most important renewable natural resource.



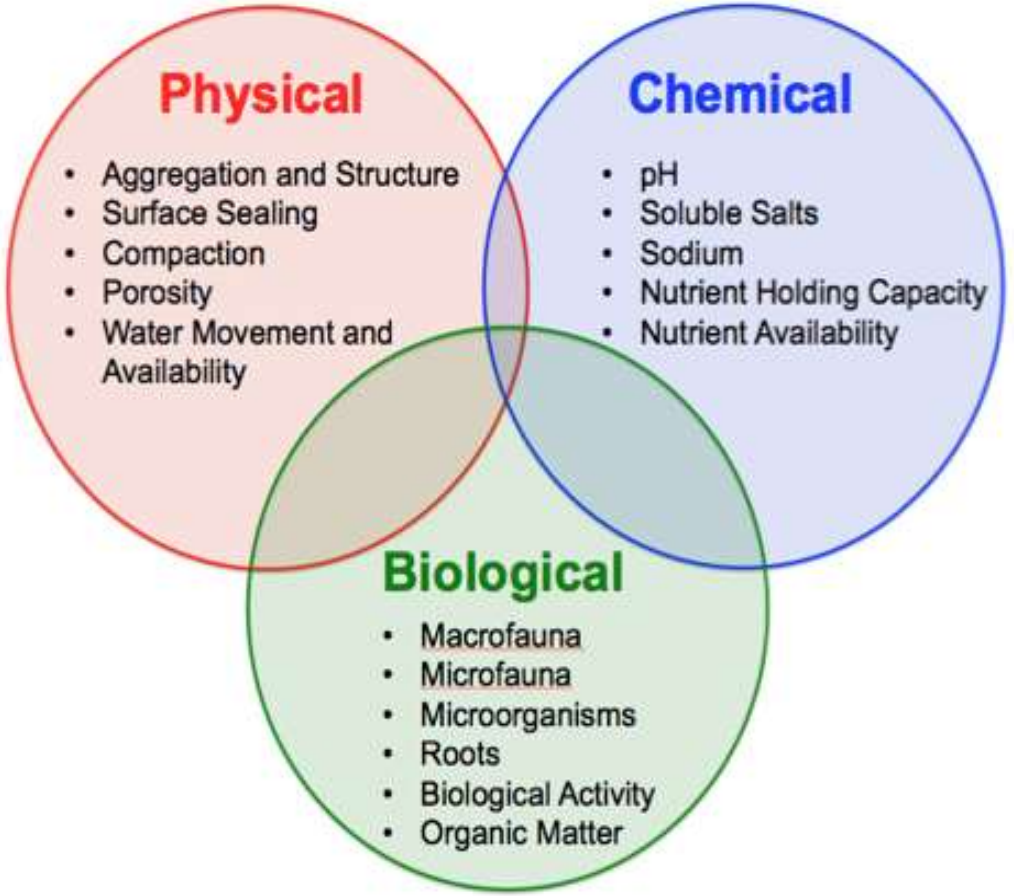
# SOIL PROFILE

1. It takes millions of years to form soil up to a few cms in depth. Various forces of nature such as change in temperature, actions of running water, wind and glaciers, activities of decomposers etc. contribute to the formation of soil.
2. Parent rock or bedrock, climate, vegetation and other forms of life and time are important factors in the formation of soil.
3. Chemical and organic changes which take place in the soil play an important role.
4. Soil also consists of organic (humus) and inorganic materials.



# Classification of Soils

- On the basis of the factors responsible for soil formation, color, thickness, texture, age, chemical and physical properties, the soils of India are classified in different types as mentioned below:



- **ALLUVIAL SOILS**

1. The entire northern plains are made of alluvial soil.

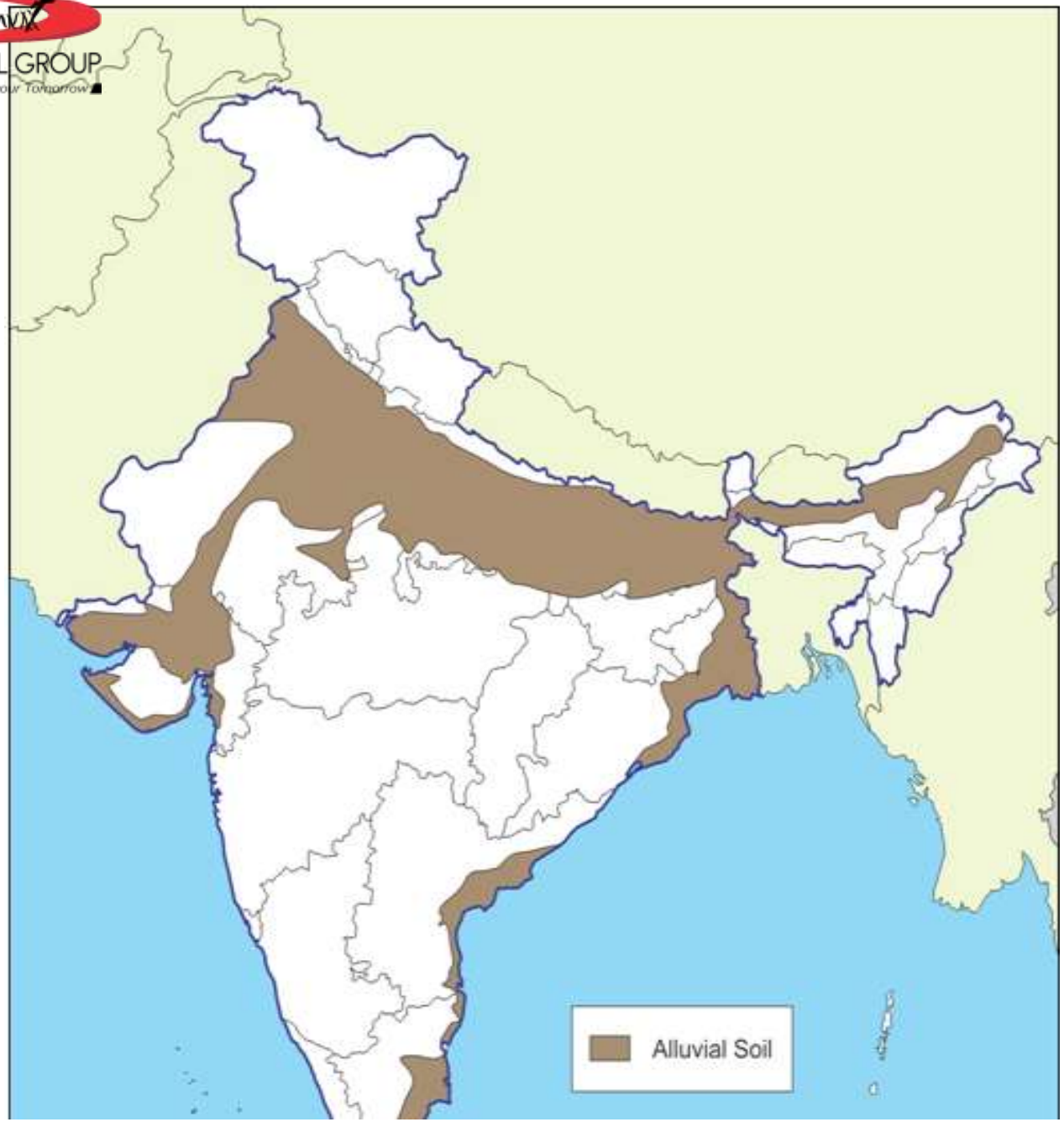
2. The alluvial soil is deposited by 3 important Himalayan river systems - the Indus, the Ganga and the Brahmaputra.

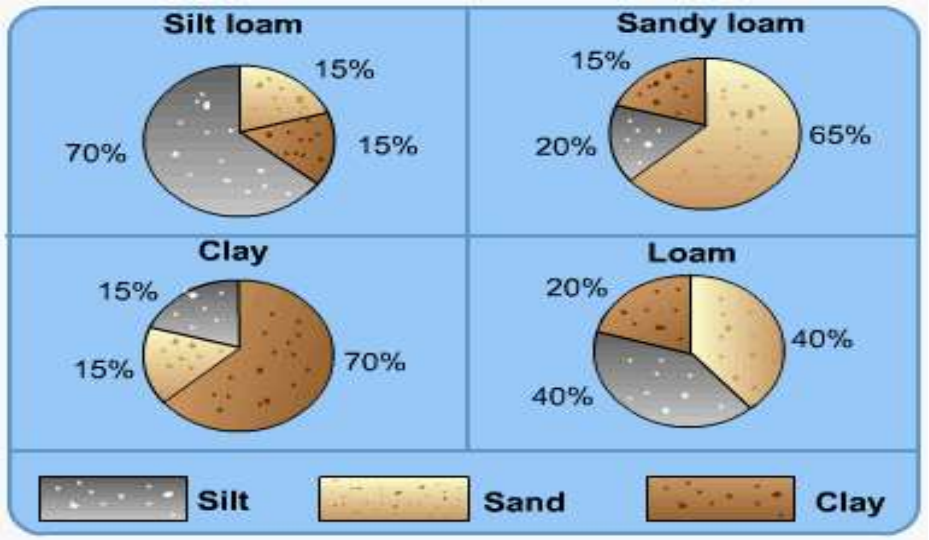
3. It is also found in Rajasthan, Gujarat and eastern coastal plains particularly in the deltas of the Mahanadi, the Godavari, the Krishna and the Kaveri rivers.

4. The alluvial soil consists of various proportions of sand, silt and clay. As we move inlands towards the river valleys, soil particles appear to be bigger in size whereas in the upper side of the river valley, the soils are coarse.

5. Based on age, alluvial soils can be classified as: a. Old alluvial (banger): the banger soil has a higher concentration of kanker nodules than the khadar. B. New alluvial (khadar): it has more fine particles and is more fertile than the bangar.

6. Alluvial soils are very fertile. These soils contain an adequate proportion of potash, phosphoric acid and lime, which are ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops



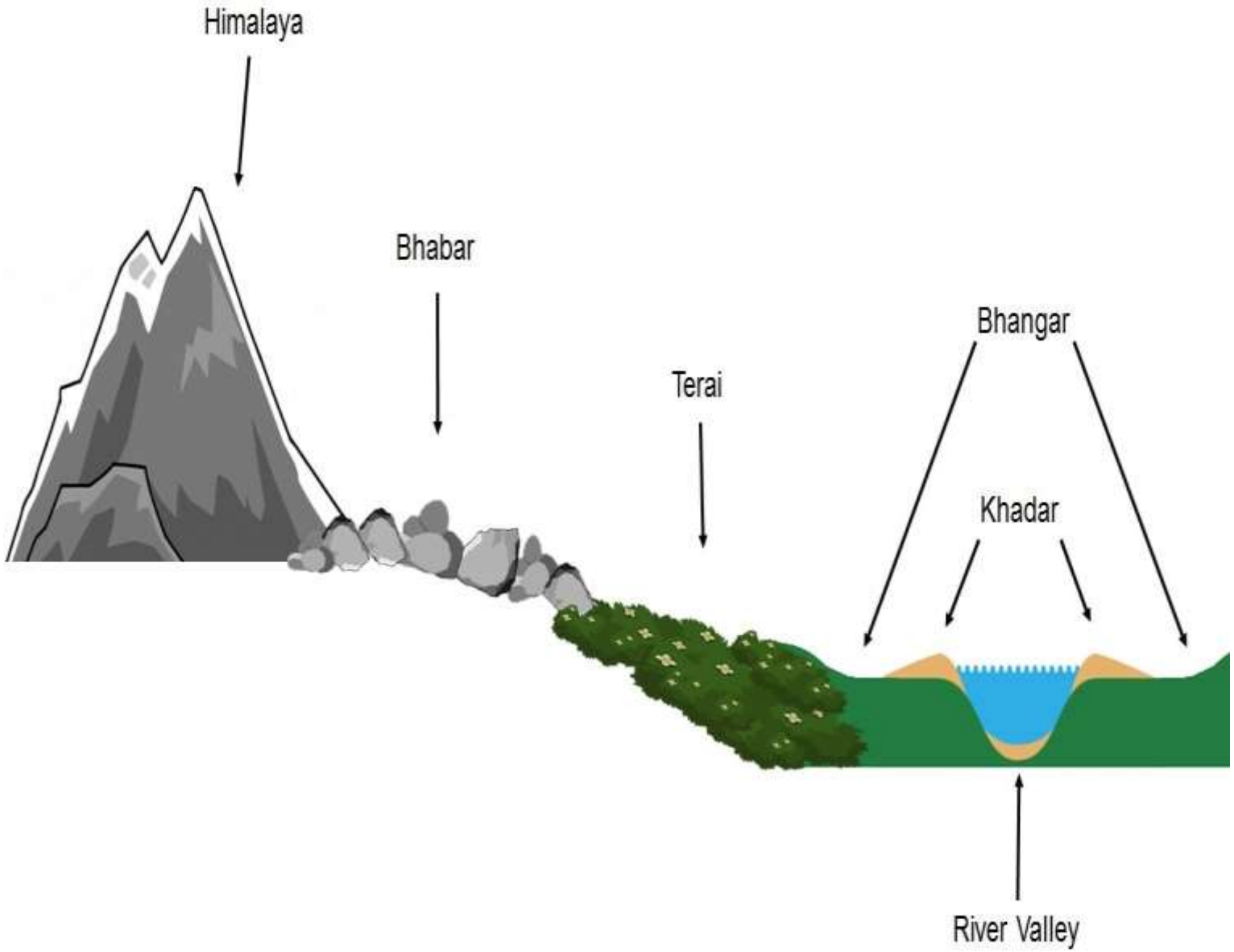




## Alluvial Soil

**Found:** Northern Plains , Deltas formed by the rivers of Deccan Plateau.

**Characteristics:** This soil is very fertile.

**Crops Grown:** Groundnut ,Wheat , Sugarcane, Rice, Pulses, Oilseeds and Jute




| Khadar soil | Bangar soil |
|---|---|
| It is a new alluvial soil. | It is an old alluvial soil. |
| Lower concentration of kankar nodules. | Higher concentration of kankar nodules. |
| It has more fine particles. | It has less fine particles. |
| It is more fertile. | It is less fertile. |

# • BLACK SOIL

1. This soil is black in color and is also known as REGUR SOIL. Climatic conditions along with the parent rock material are the important factors for the formation of black soil.

2. The soil is ideal for growing cotton and is also known as BLACK COTTON SOIL.

3. This type of soil is typical of the Deccan trap (basalt) region spread over northwest Deccan plateau and is made up of lava flows.

4. The soil covers the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extends in the south-east direction along the Godavari and the Krishna valleys.

5. The black soils are made up of extremely fine i.e. Clayey material and well-known for their capacity to hold moisture.

6. Black soil is nutrients rich and contains calcium carbonate, magnesium, potash and lime.

7. The soil is sticky when wet and difficult to work on unless tilled immediately after the first shower or during the pre-monsoon period.


**FOUND:-** Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh

**CHARACTERISTICS :-** The soil is ideal for growing cotton. This soil has fine texture and holds moisture.

**CROPS GROWN :-** Cotton

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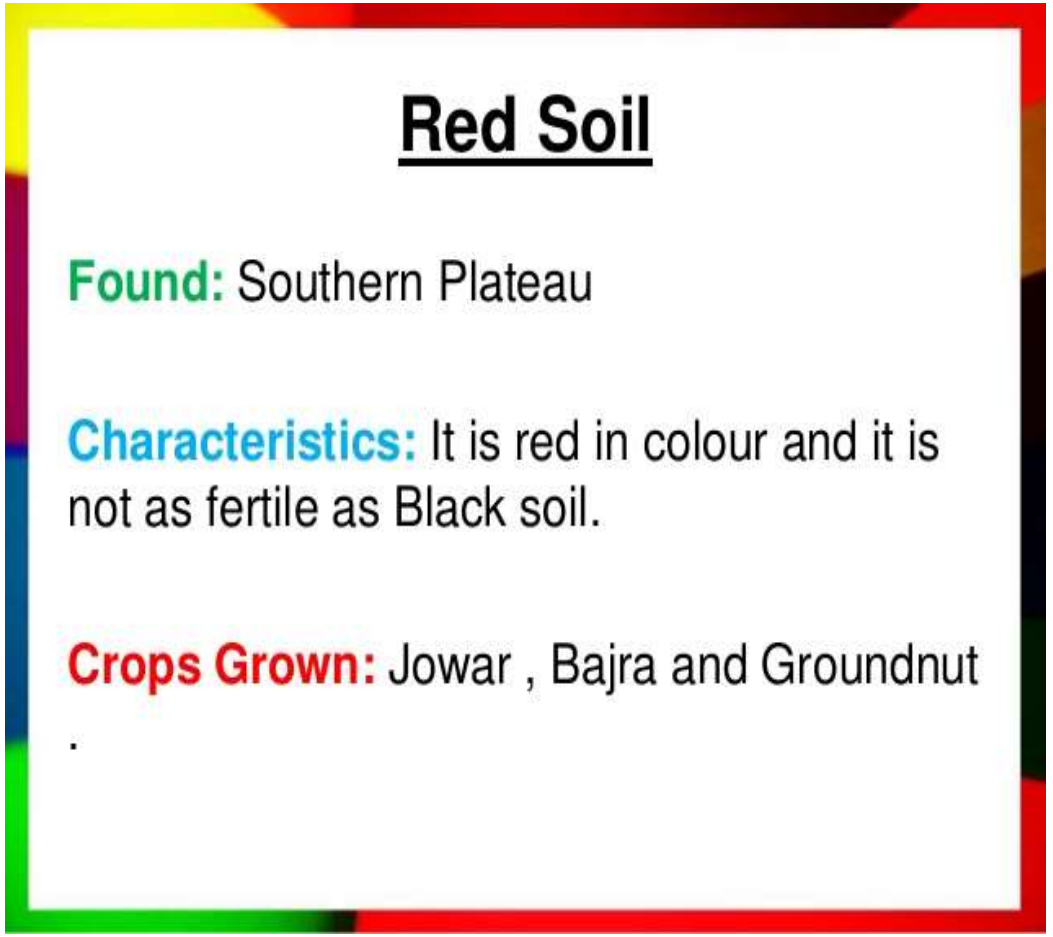
- **RED AND YELLOW SOILS**

1. This type of soil develops on crystalline igneous rocks in areas of low rainfall in the eastern and southern parts of the Deccan plateau.

2. These soils develop a reddish color due to diffusion of iron in crystalline and metamorphic rocks. It looks yellow when it occurs in a hydrated form.

3. Found in parts of Odisha, Chhattisgarh, southern parts of the middle Ganga plain and along the zone of the western Ghats.



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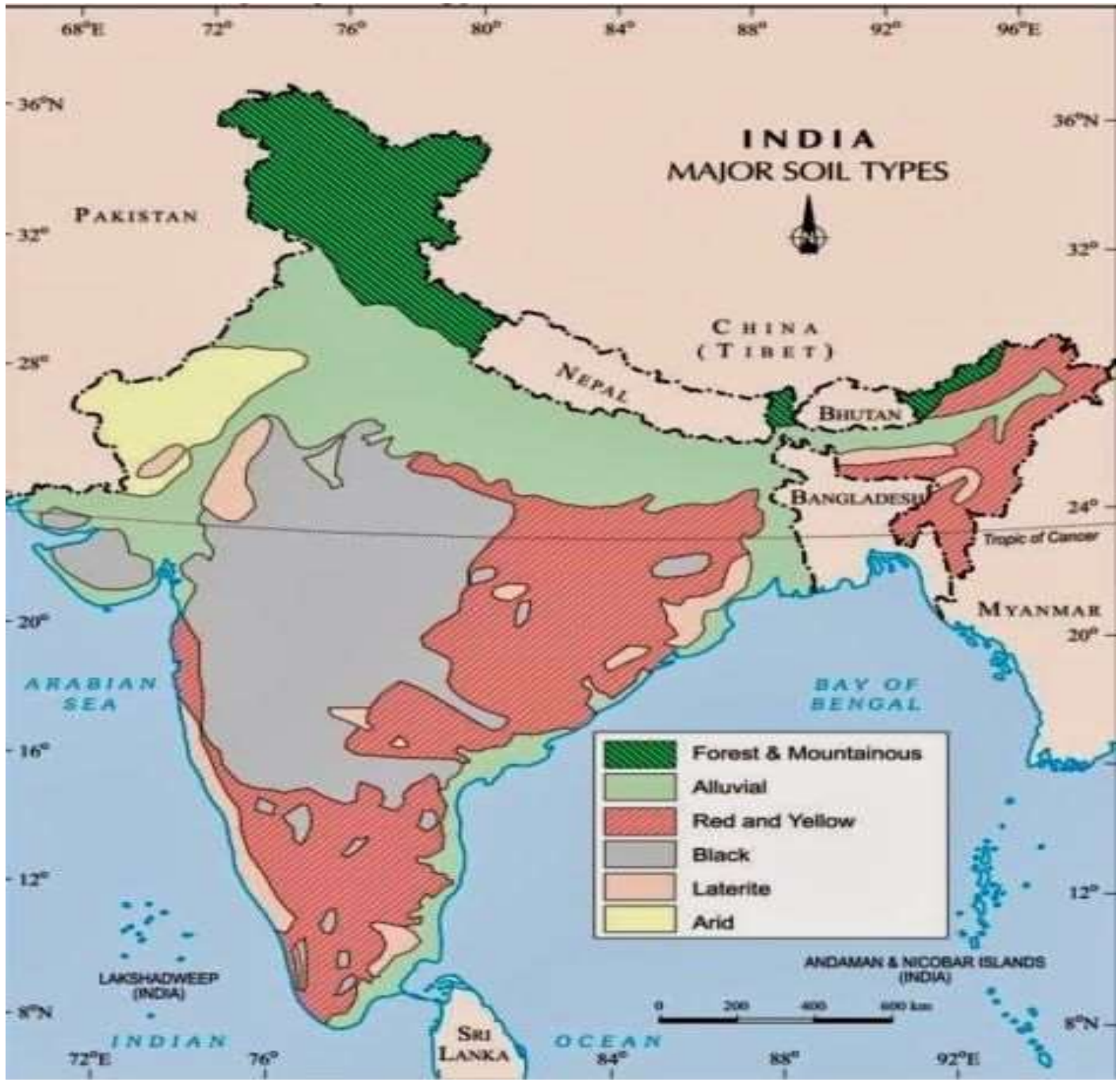


- ## Laterite Soil

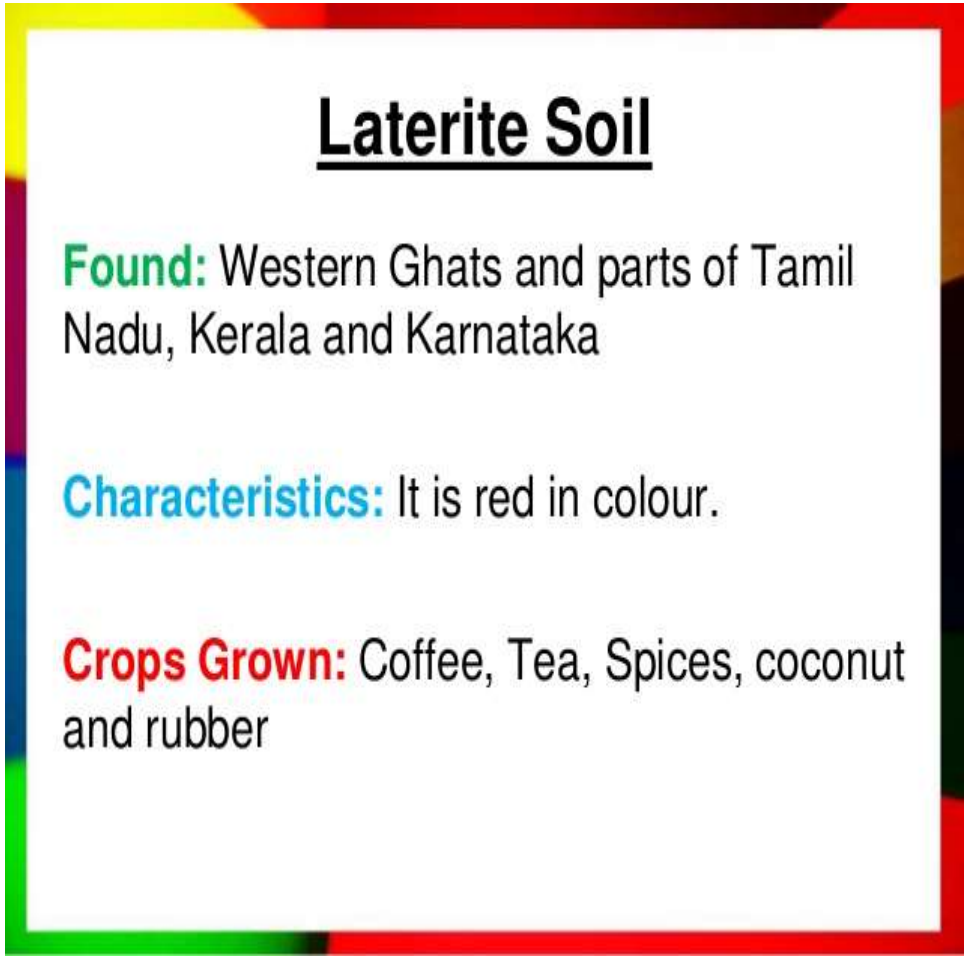
1. The laterite soil develops under tropical and subtropical climate with the alternate wet and dry season.

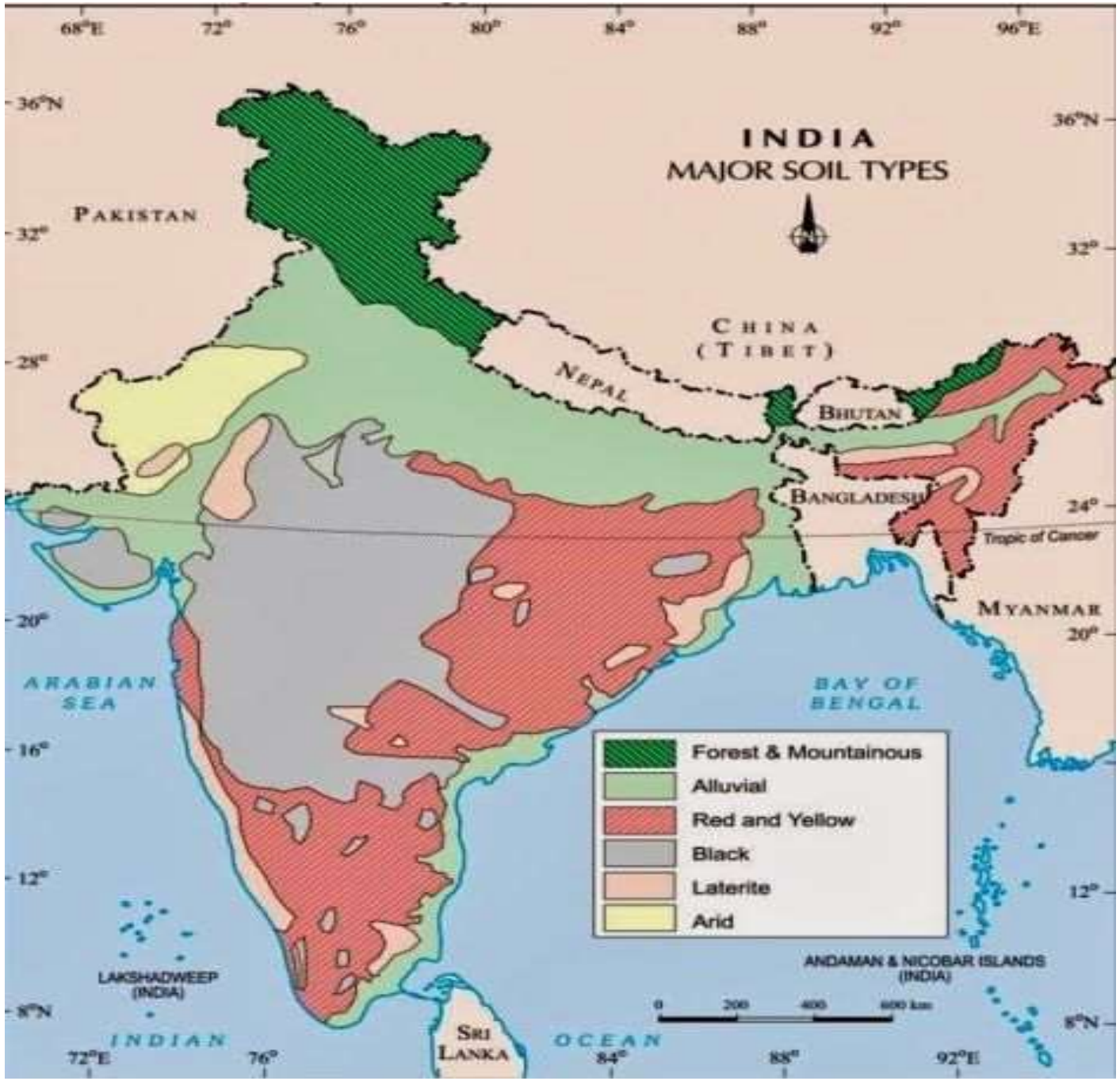
2. This soil is the result of intense leaching due to heavy rain.

3. Lateritic soils are acidic (ph<6.0) in nature and generally deficient in plant nutrients. This type of soil is found mostly in southern states, western Ghats region of Maharashtra, Odisha, some parts of west Bengal and north-east regions.

4. The soil supports deciduous and evergreen forests but poor in humus.

5. This soil is very useful for growing tea and coffee.





| Points of distinction | Red soils | Laterite soils |
|---|---|---|
| (*a*) formation | • These soils are formed due to the weathering of igneous and metamorphic rocks. | • These soils are formed by the leaching process. |
| (*b*) occurnce | • These soils develop in areas of low rainfall. | • These soils develop in the areas of high rainfall. |
| (*c*) colour | • These are red in colour due to the presence of iron in them. | • These are red in colour due to little clay and much gravel of red sandstones. |
| (*d*) texture | • These are less crystalline. | • These are crystalline. |
| (*e*) fertility | • These are highly porous and less fertile but where these are deep, these are fertile. | • These are less fertile, only grass grows in abundance. |
| (*f*) states | • These are found in Tamil Nadu, Odisha, Chattisgarh and southern parts of the middle Ganges Plains. | • These are found in Karnataka, Kerala, Madhya Pradesh and the hilly areas of Odisha and Assam. |

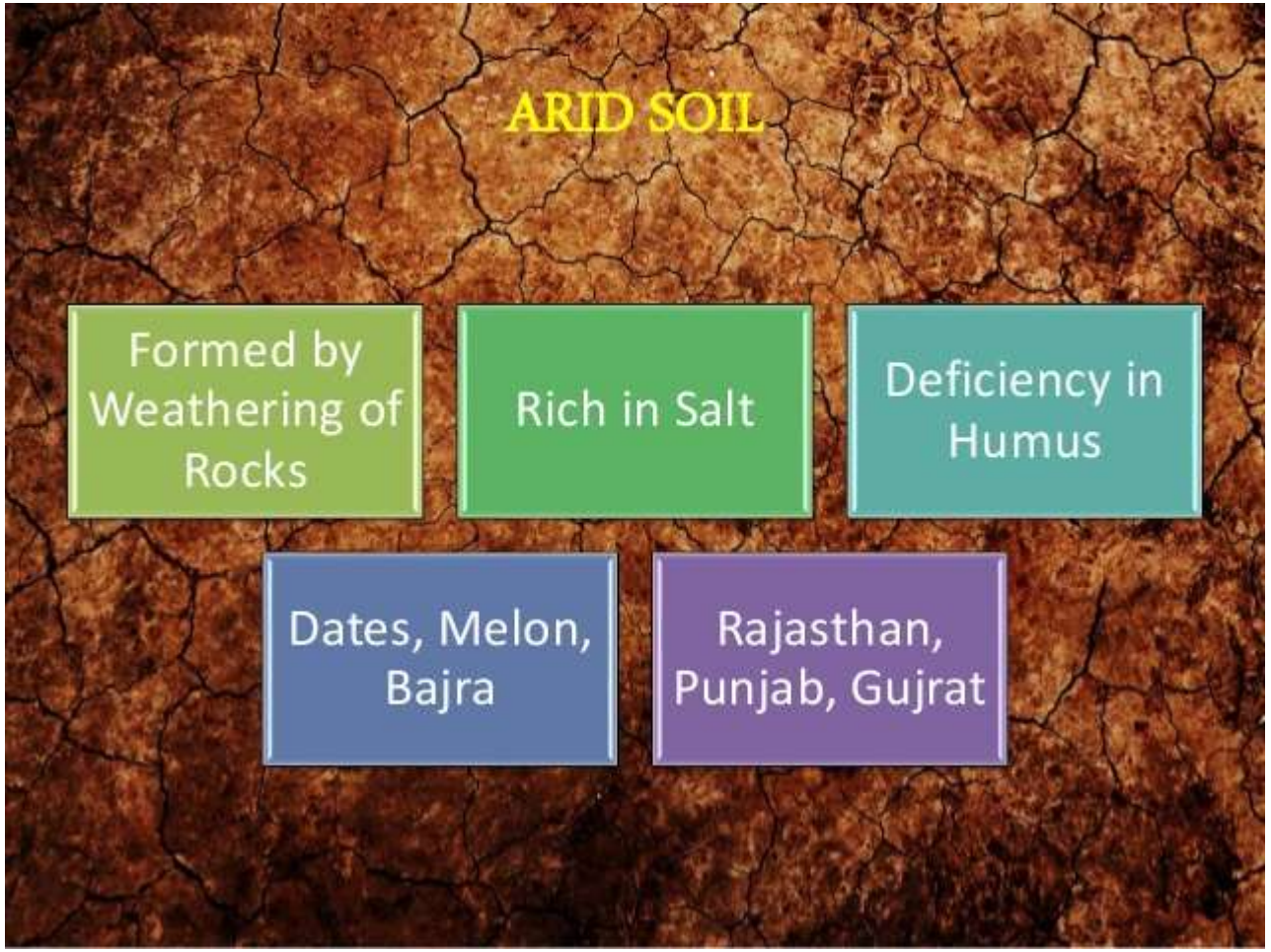
- **Arid Soils**

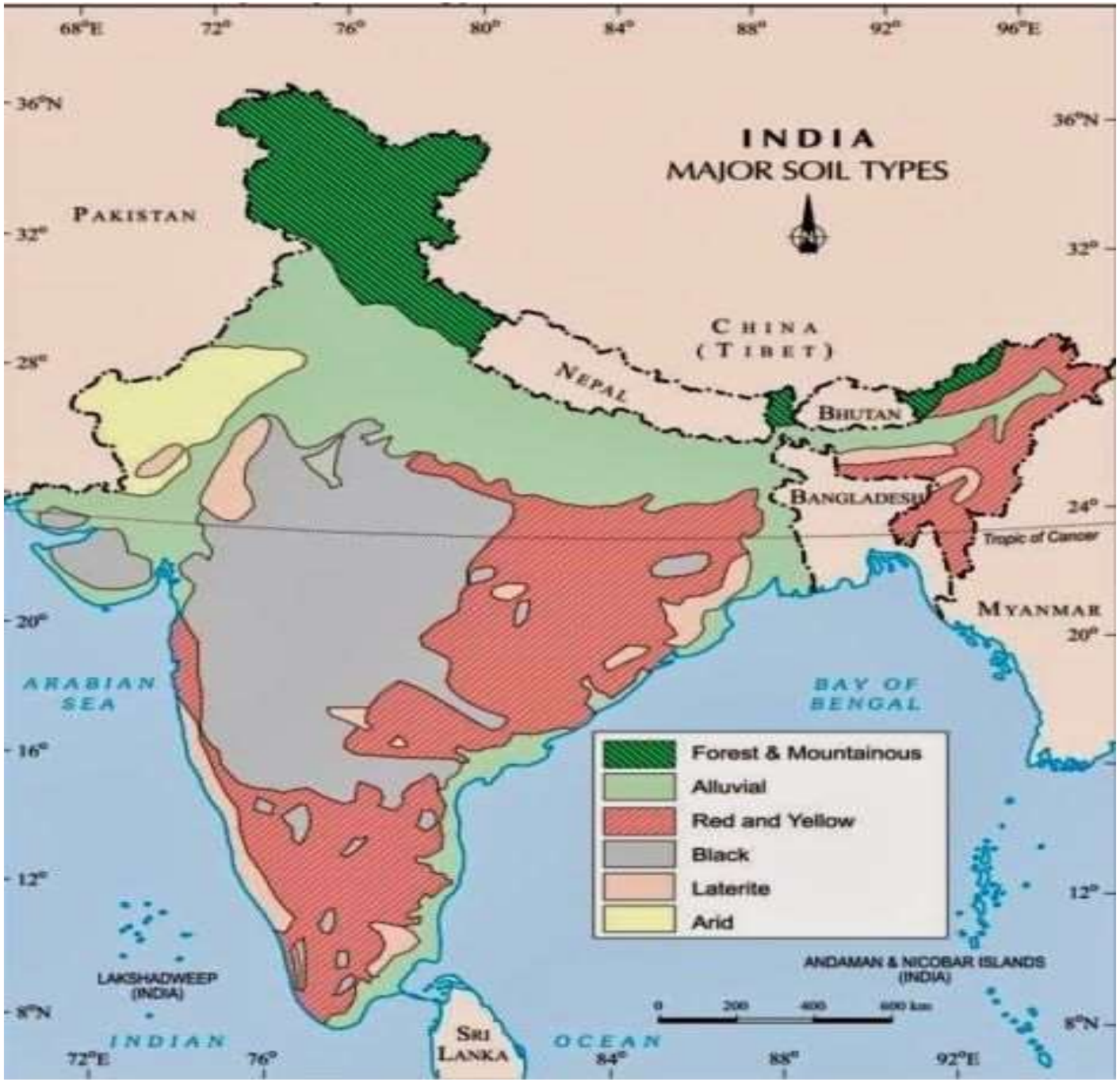
1. Arid soils range from red to brown in color.

2. This soil is generally sandy in texture and saline in nature. In some areas, the salt content is very high and common salt is obtained by evaporating the water.

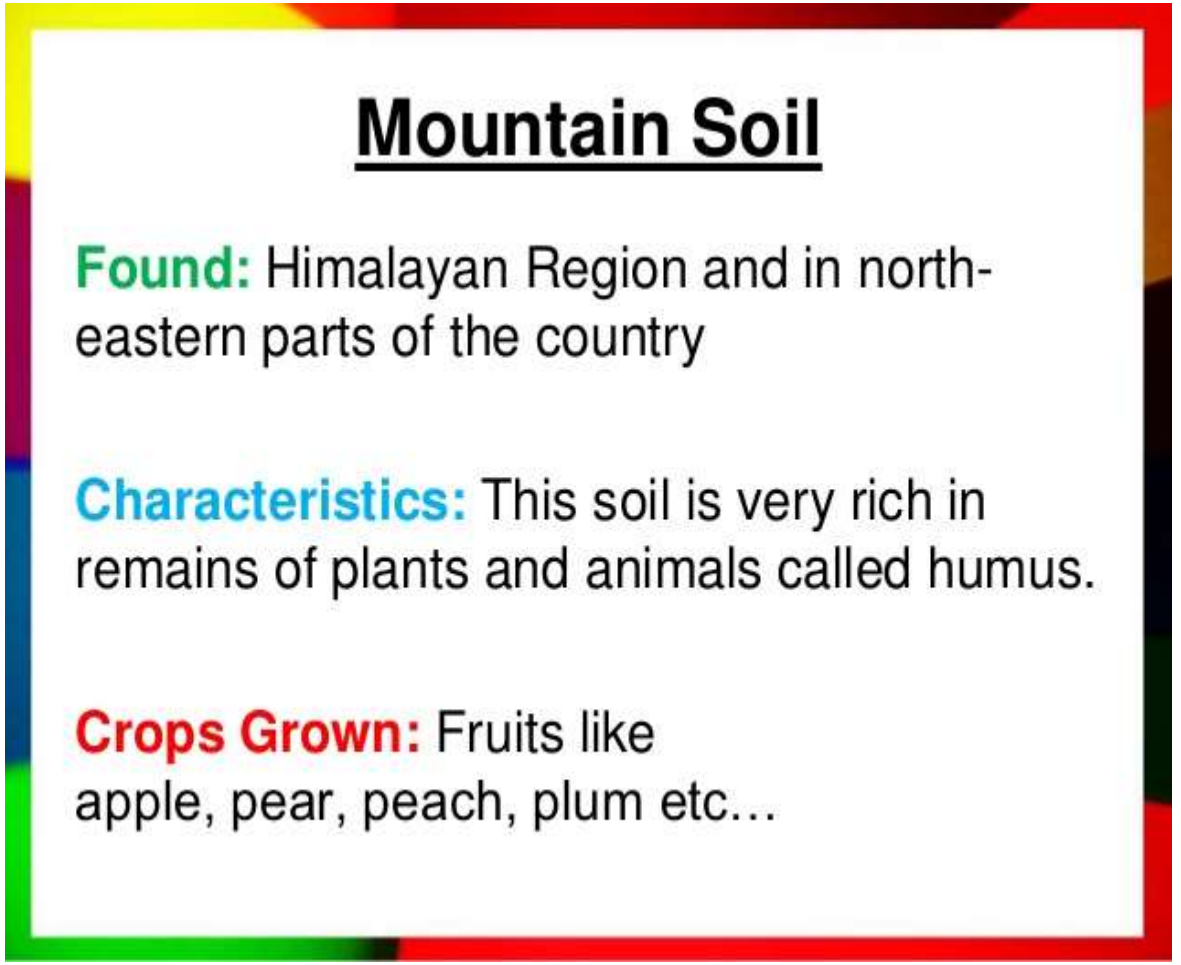
3. Arid soil lacks humus and moisture.

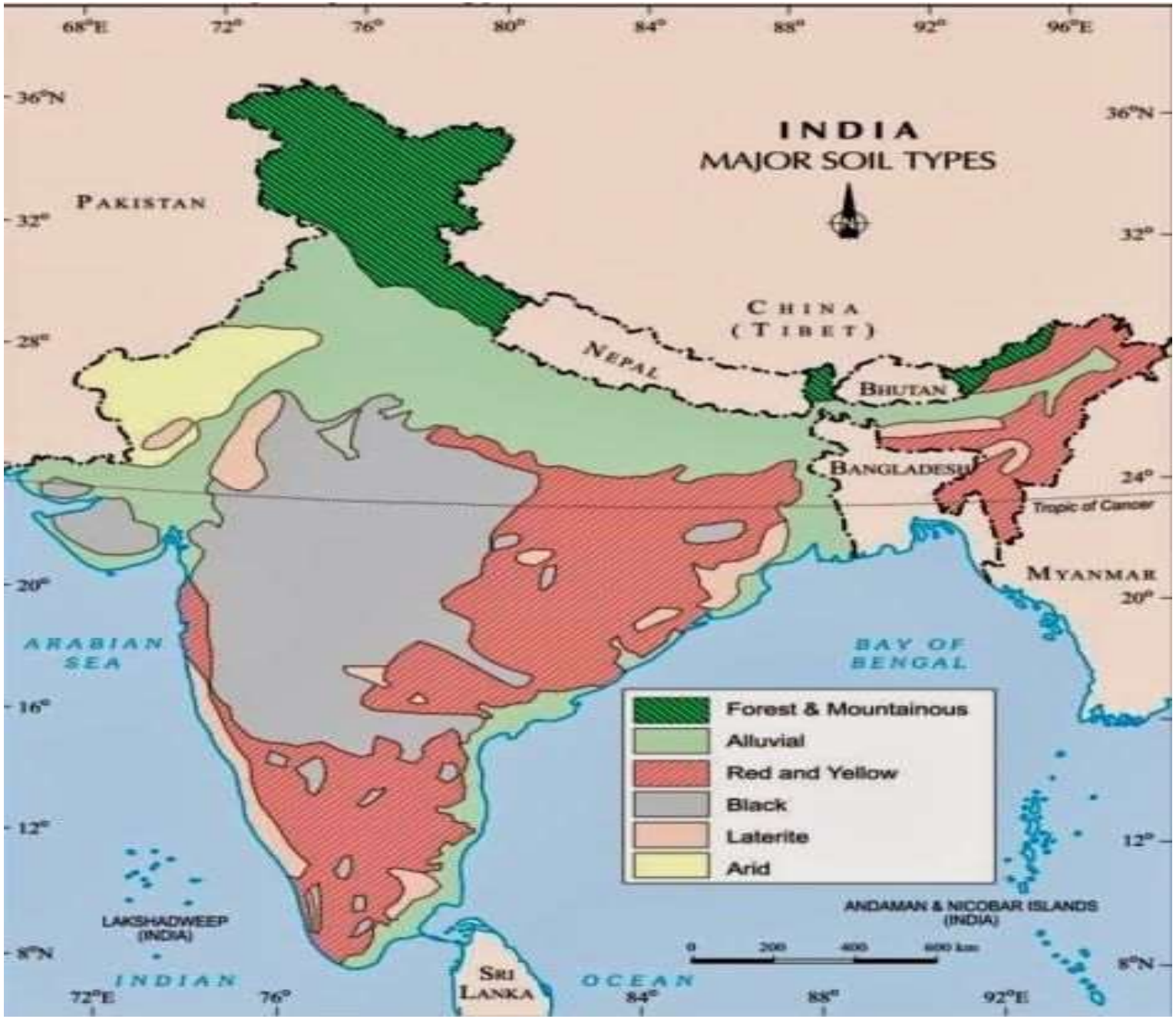
4. The lower horizons of the soil are occupied by kankar because of the increasing calcium content downwards. The kankar layer formations in the bottom horizons restrict the infiltration of water.





- **Forest Soils**
- 1. These soils are found in the hilly and mountainous areas.
- 2. The soil texture is loamy and silty in valley sides and coarse grained in the upper slopes.
- 3. In the snow covered areas of Himalayas, these soils experience denudation and are acidic with low humus content. The soil is fertile on the river terraces and alluvial fans.





# TYPES OF INDIAN SOIL :-

| SOIL | FORMATION | FEATURE | AREAS |
|---|---|---|---|
| ALUVIAL SOIL | DEPOSITIONAL ACTION OF RIVERS | MOST FERTILE<br>SUPPORT CULTIVATION | INDO-GANGETIC PLAINS, DELTAIC PLAINS |
| BLACK SOIL (REGUR/COTTON) | SOLIDIFICATION OF LAVA | SWELLS WHEN WET. DEVELOPES CRACKS WHEN DRY<br>GOOD FOR CEREALS, PULSES, OIL SEEDS, CITRUS FRUITS, VEGETABLES | DECCAN PLATEAU |
| RED SOIL | DIFFUSION OF METAMORPHIC ROCKS | SANDY, RED IN COLOUR (PRESENCE OF IRON-OXIDES)<br>LESS FERTILE IN UPLANDS | ODISHA, MP, TN, TELANGANA, AP, KERALA |
| LATERITE SOIL | INTENSE LEACHING (WATER WASHES OUT SOIL NUTRIENTS) | NEED FERTILISERS FOR CULTIVATION<br>USED FOR BRICK MAKING, JUTE, MILLETS, FODDER CROP | MAHARASTRA, KARNATAKA, KERALA, ODISHA, TN, WB |
| ARID/ SANDY SOIL | DRY REGION, LACK MOISTURE | LOW MOISTURE, LACK VEGETATION COVER, IRRIGATION HELPS IN CULTIVATION | WESTERN RAJASTHAN |
| PEATY/FOREST SOIL | NATURAL OCCURING FOREST AND REGIONS OF DENSE VEGETATION | RICH IN HUMUS, ORGANIC MATTER, | UTTARANCHAL, J&K, JHARKHAND, BIHAR, N-E States |

# Home Assignment:-

1. How are soils classified?
2. Write features of alluvial soil?
3. Give various classification of alluvial soil on the basis of age.
4. Which soil is known as cotton soil? Mention its special feature.
5. Where in India, we can find arid soil?

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# LAND DEGRADATION

- LAND DEGRADATION : It refers to the decline in productivity of cultivated land or forest land .

Human activities such as :-

- Mining sites are abandoned after excavation work is complete leaving deep scars and traces of over-burdening.
- Overgrazing is one of the main reasons for land degradation.
- Over irrigation is responsible for land degradation, due to water logging that leads to increase in salinity and alkalinity in the soil.
- The mineral processing like grinding of limestone for cement industry and calcite and soapstone for ceramic industry generate huge quantity of dust in the atmosphere.
- Industrial effluents as waste have become a major source of land and water pollution in many parts of the country.

# OVER GRAZING

# OVER IRRIGATION

# MINING


## Causes and effects of mining

- Economic Gain
- Minerals
- Energy Resources
- mining
- Deforestation
- Acid Mine Drainage
- Diseases
- Loss of biodiversity
- Contamination of soil and water
- Sinkholes

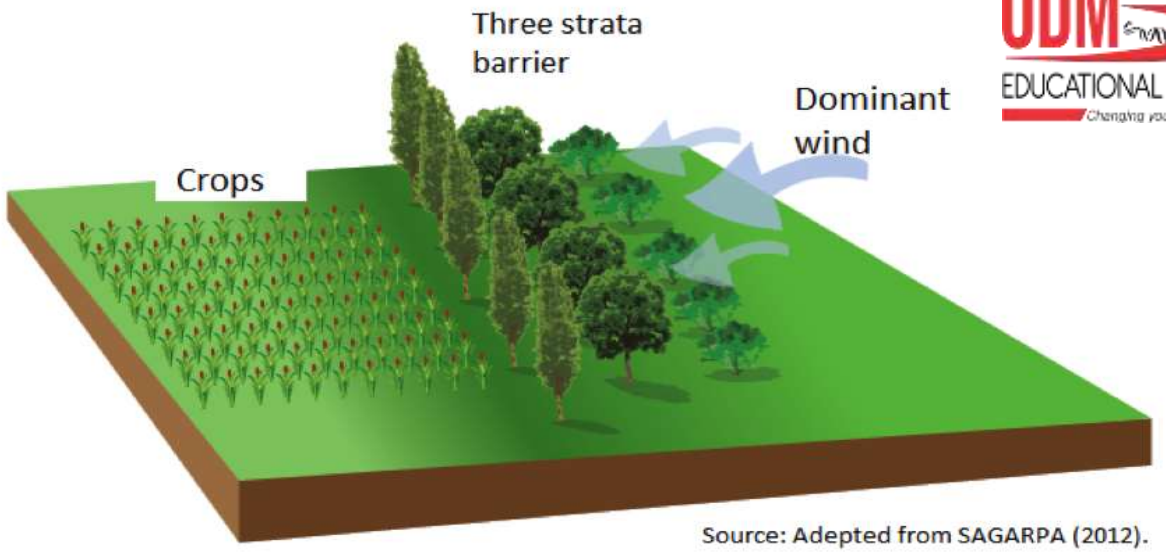
# Effects of Land Degradation

- Surface runoff and floods.
- Soil erosion & desertification.
- Loss of Nutrients & land productivity.
- Soil acidification/alkalinisation.
- Soil salinity.
- Loss of biodiversity.
- Long term socioeconomic impact on humans like migration.

# CONSERVATION MEASURES



- Afforestation and proper management of grazing.
- Planting of shelter belts of plants.
- Proper management of waste lands.
- Control of mining activities.
- Proper discharge and disposal of industrial effluents and wastes after treatment can reduce land and water degradation in industrial and suburban areas.
- Stabilization of sand dunes by growing thorny bushes are some of the methods to check land degradation.




Source: Adepted from SAGARPA (2012).

# Home Assignment:-

1. Name the most wide spread soil of India. Give its characteristic features.
2. What is land degradation?
3. Mention three main causes of land degradation in India.
4. Why soil conservation is important ?
5. What are the methods of soil conservation?

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- Resources
- Features of resources
- Classification of resources on the basis of – origin, exhaustibility, development, distribution
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- Resources on the basis of exhaustibility- RENEWABLE & NON-RENEWABLE
- Resources on the basis of DEVELOPMENT- Actual OR DEVELOPED, POTENTIAL, STOCK, RESERVES
- Resources on the basis of DISTRIBUTION- UBIQUITOUS & LOCALISED RESOURCES
- RESOURCE CONSERVATION (SUSTAINABLE DEVELOPMENT- THE BRUNDTLAND COMMISSSION, EARTH SUMMIT, AGENDA 21)

# LAND UTILISATION

https://www.youtube.com/watch?v=RMu7NtScdhU

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## Land resources are used for the following purposes:

1.A **forest** is a large area dominated by trees. Hundreds of more precise **definitions of forest** are used throughout the world, incorporating factors such as tree density, tree height and ecological function.

2. Land not available for cultivation (a) barren and waste land (b) land put to non-agricultural uses, e.g. Buildings, roads, factories, etc.

3. Other Uncultivated Land (excluding fallow land) (a) permanent pastures and grazing land, (b) land under miscellaneous tree crops groves, (c) cultivable waste land (left uncultivated for more than 5 agricultural years).

4. Fallow lands (a) current fallow-(left without cultivation for one or less than one agricultural year), (b) other than current fallow-(left uncultivated for the past 1 to 5 agricultural years).

5. Net sown area, Area sown more than once in an agricultural year.

**Gross cropped area (GCA)** is the total area sown once as well as more than once in a particular year. When the crop is sown on a piece of land for twice, the area is counted twice in GCA.

On the other hand, **net sown area** is the area sown with crops but is counted only once.

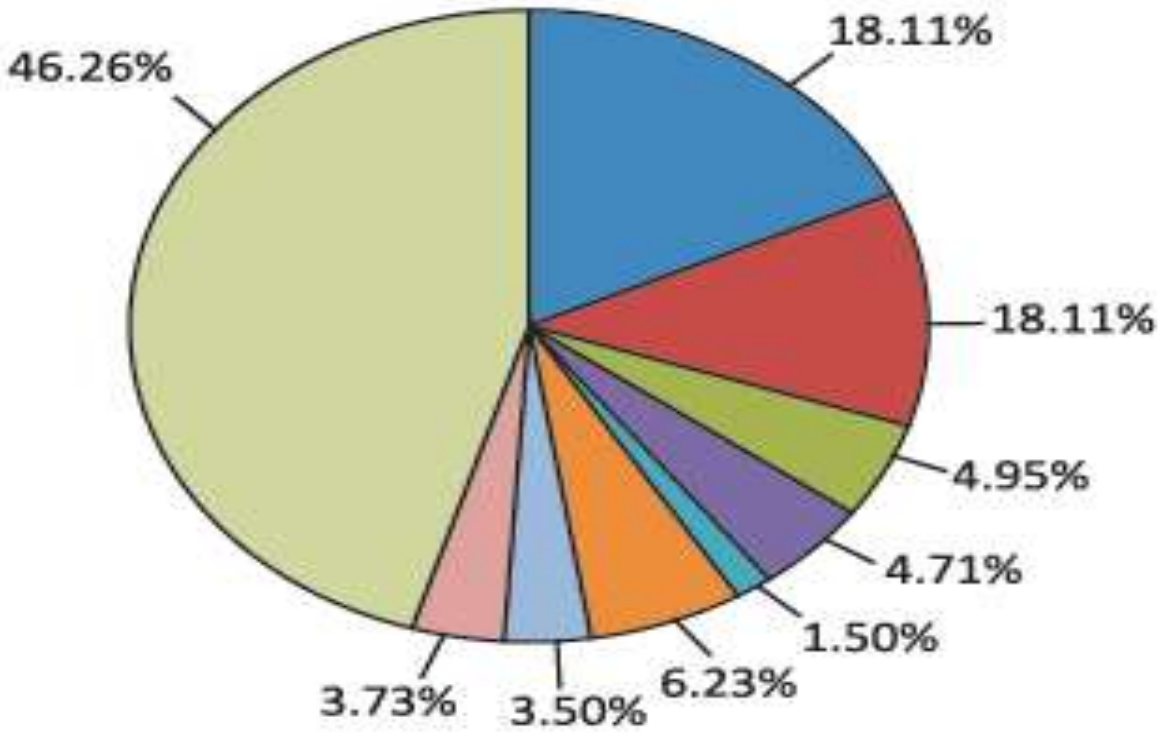
- This implies that if we deduct net sown area from gross cropped area; what we find is those areas where crops are cultivated for more than once in a particular agriculture year.

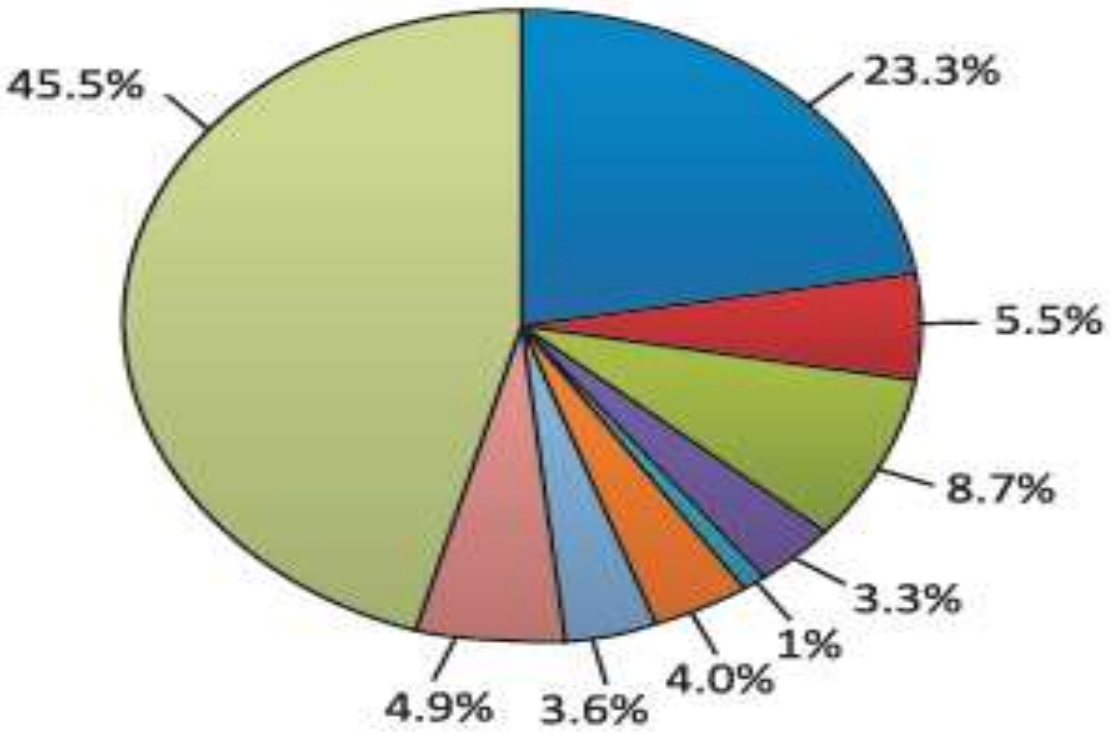
- **NET SOWN AREA** is the proportion of the total areas of the country which is used for growing crops.
- **GROSS CROPPED AREA** is divided by net sown area. It includes the part of net sown area which is used for two or three crops in a year.
- 0ut of the known total area of 3046 lakh hectares, the net sown area is 1411 lakh hectare. It is 46.32% of the total area.
- For example, if 5 hectare net sown area is used for doubled cropping in a year, the gross cropping area will be 10 hectare.
- The distribution of net sown area is not uniform in our country. In northern plains it is very high. In Punjab it is 84% while in Mizoram it is 3.1% only.
- Gross cropped area explains the intensity of cropping in a region. Punjab, Haryana, Uttar Pradesh, have the high gross cropped area. Rajasthan have the low gross cropped area.

## General land use categories–1960–61

## General land use categories–2014–15

*Reporting Area: 100 Per cent*




- Forest
- Barren and unculturable waste land
- Area under non-agricultural uses
- Permanent pasture and grazing land
- Area under misc. tree crops and groves
- Culturable waste land
- Fallow other than current fallow
- Current fallow
- Net sown area

# LAND USE PATTERN IN INDIA



## FOREST AREA

- During 1950-51 the area under forest was only 40.48 million hectares (14.2%) in India. But it has been increased to 80.20 million hectares (24.39%) in 2017-2018.
- According to **NATIONAL FOREST POLICY 1952,** the reporting area of the forest must be 33.3% of the total land.
- The proportion of the forest area is not evenly distributed in the country.
- **Madhya Pradesh, Arunachala Pradesh, Odisha, Maharashtra, Andhra Pradesh, Andaman Nicobar islands** are reporting more area under forest. It is due to heavy rainfall and relief features.
- In contrast **Dadra and Nagar Haveli, Haryana, Punjab and Goa** states have less area under forests.

## LAND NOT AVAILABLE FOR CULTIVATION

- The land used for human settlements, transport routes, canals, quarries, the mountains, deserts, marshes comes under this category. It accounts 12.11% of total land in India.
- **Arunachal Pradesh, Rajasthan, Gujarat, and Madhya Pradesh** states are having more area under this category.
- In contrast, **Dadra and Nagar Haveli, Chandigarh, Andaman and Nicobar and Sikkim** are having less area under this category.

# CULTIVABLE WASTE LANDS

This includes permanent pasture and other grazing area, land under miscellaneous tree, crops, groves and cultivable waste.

- This category covers about 8.6 % of the country's total reporting land.
- The permanent pasture and other grazing are is reported high in the states of **Rajasthan, Himachal Pradesh and Madhya Pradesh**. But it is less in **Manipur, Dadar and Nagar Haveli, Goa and Andaman and Nicobar islands.**
- The land under miscellaneous tree crops and groves is found high in the states of **Uttarakhand, Uttar Pradesh, Odisha and Andhra Pradesh**. On the other hand **Chandigarh, Goa, Delhi and Puducherry** reported very less area under this category.
- The cultivable waste land is found more in the states of **Rajasthan, Madhya Pradesh and Maharashtra**. But it is reported very less in **Tripura, Manipur, Sikkim and Punjab** states.

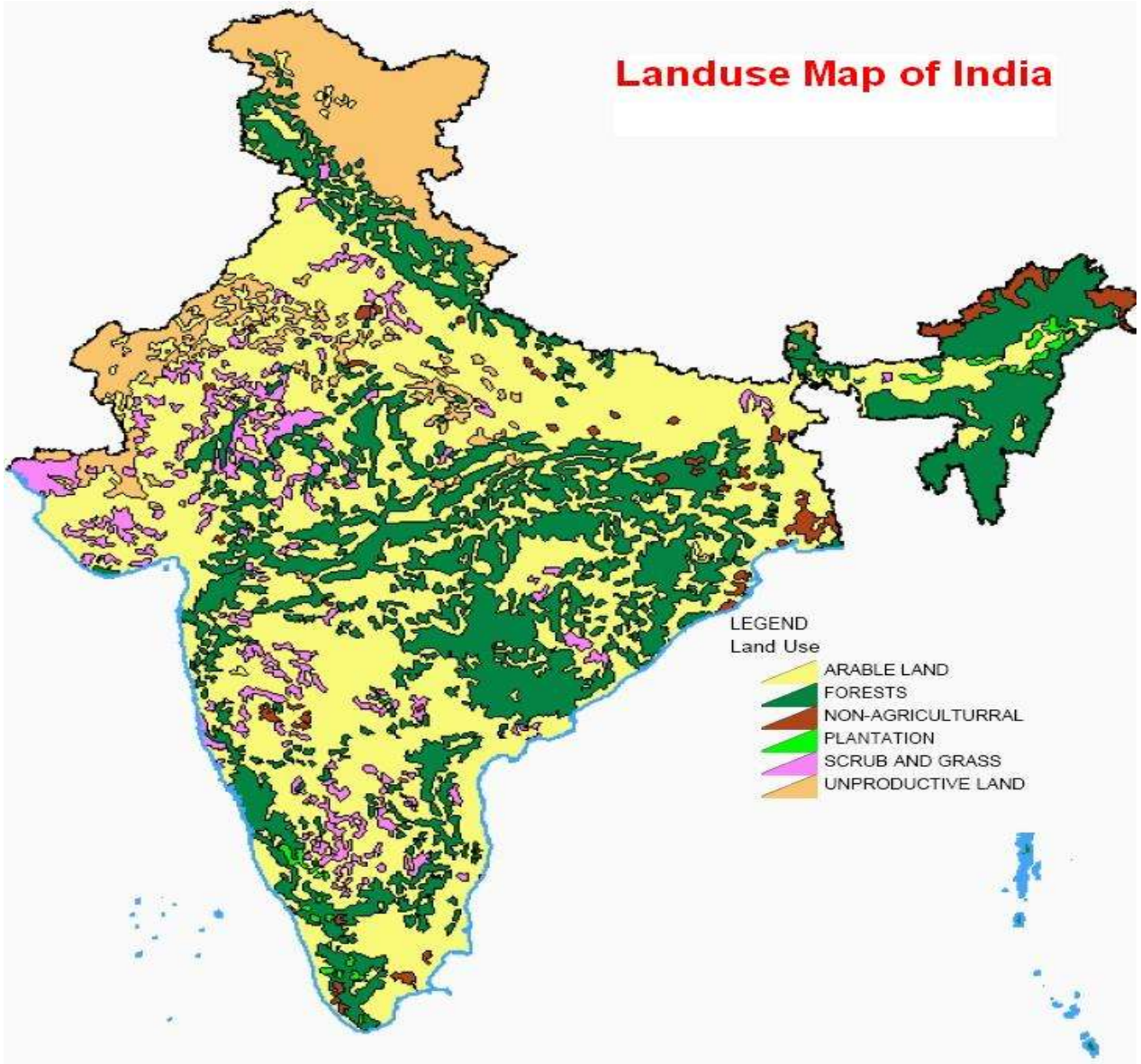
## FALLOW LANDS

- The land which is not utilized for cultivation for last 3 to 5 years is considered as fallow land. It may be cultivated. It accounts for about 8.13 % of the India's total land.
- The land under this category is reported more in the states of **Rajasthan, Andhra Pradesh and Jharkhand**. It is less in **Tripura, Dadar and Nagar Haveli, Puducherry and Andaman Nicobar islands.**

## NET AREA SOWN

- India has a net sown area of 46.26% of the total reporting land in India.
- Net sown area has reached its maximum level in **Haryana, Punjab, Uttar Pradesh**. **Himachal Pradesh, Jammu and Kashmir, Meghalaya, Nagaland, Mizoram and Arunachala Pradesh** are reporting less than 30% of net area sown.

# Land Use Pattern of India



# Home Assignment:-

1. Why is it important to know the land use pattern of a country?
2. What are the measures taken to control land degradation in different regions of India?

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# RESOURCE AND DEVELOPMENT

## INTRODUCTION

**SUBJECT : GEOGRAPHY**
**CHAPTER NUMBER: 01**
**CHAPTER NAME : RESOURCE AND DEVELOPMENT**



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# Concern over 'use' of RESOURCES



Resources are important for human survival as well as for maintaining the quality of life.

RESOURCES ARE NOT FREE, but when it was considered so, human beings started to use them irrationally and this has led to the following problems:-

- **Depletion of resources** for satisfying the greed of a few individuals.
- **Accumulation of resources** in few hands resulted in division of society into rich and poor segments.
- **Indiscriminate exploitation of resources** leading to global ecological crisis like global warming, pollution, land degradation, drought etc.

Equal distribution of resources has become essential for a sustained quality of life and GLOBAL PEACE.

Resource planning is essential for sustainable existence of all forms of life.

# SUSTAINABLE DEVELOPMENT

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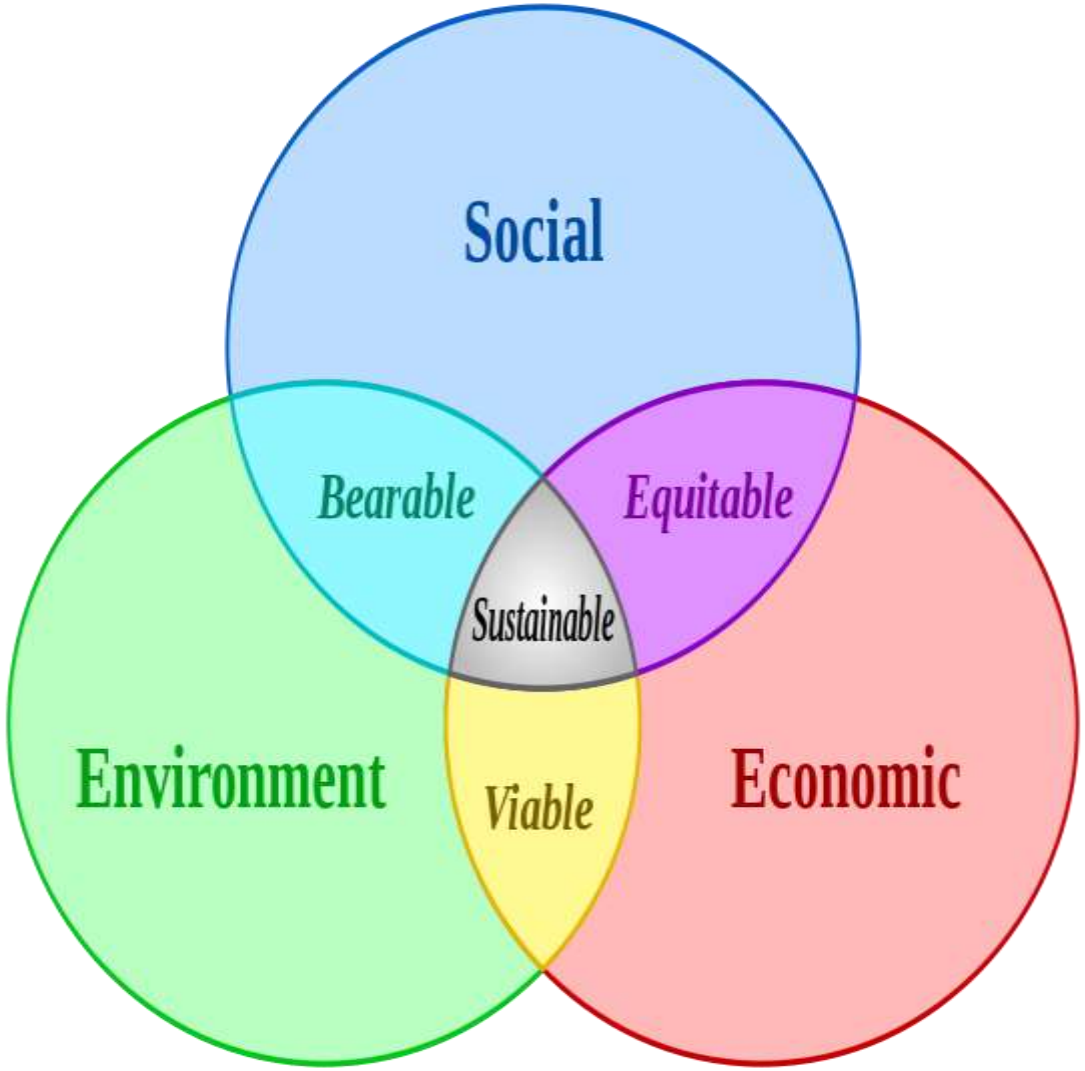
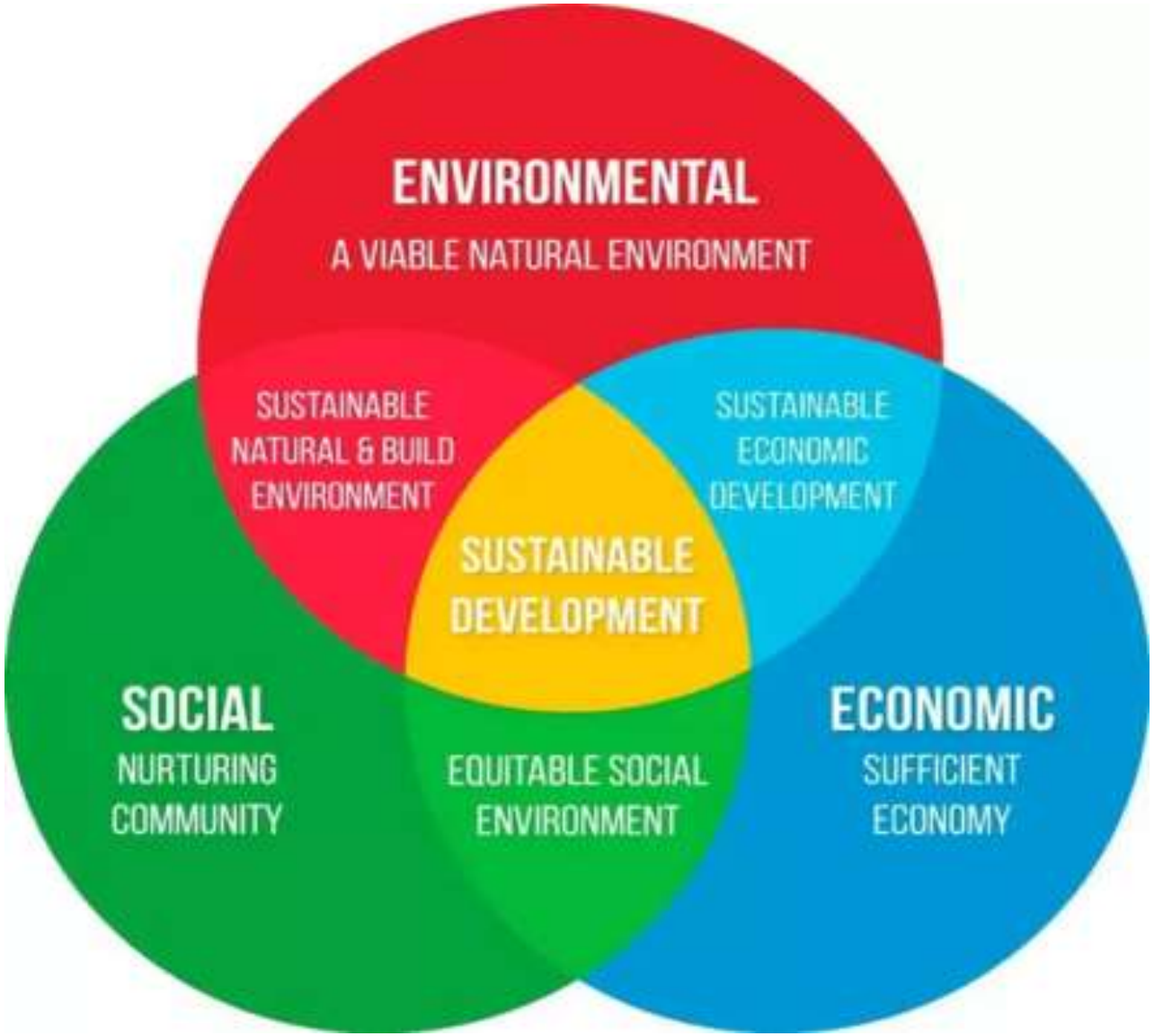


# SUSTAINABLE DEVELOPMENT

- The Brundtland Commission Report,1987. This report introduced the concept of 'Sustainable Development' and advocated it as a means for resource conservation, which was subsequently published in a book entitled Our Common Future. Another significant contribution was made at the Earth Summit at Rio de Janeiro, Brazil in 1992.
- **RIO DE JANEIRO EARTH SUMMIT,1992,** first International Earth Summit.

The assembled leaders signed the Declaration on Global Climatic Change and Biological Diversity. The Rio Convention endorsed the global Forest Principles and adopted Agenda 21 for achieving Sustainable Development in the 21st century.

Sustainable economic development means ***'development should take place without damaging the environment, and development in the present should not compromise with the needs of the future generations.'***

# 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.
- It aims at achieving **GLOBAL SUSTAINABLE DEVELOPMENT**.
- It is an agenda to combat **environmental damage, poverty, disease** through global co-operation on common interests, mutual needs and shared responsibilities.
- One major objective of the Agenda 21 is that **every local government should draw its own local Agenda 21.**

# RESOURCE PLANNING

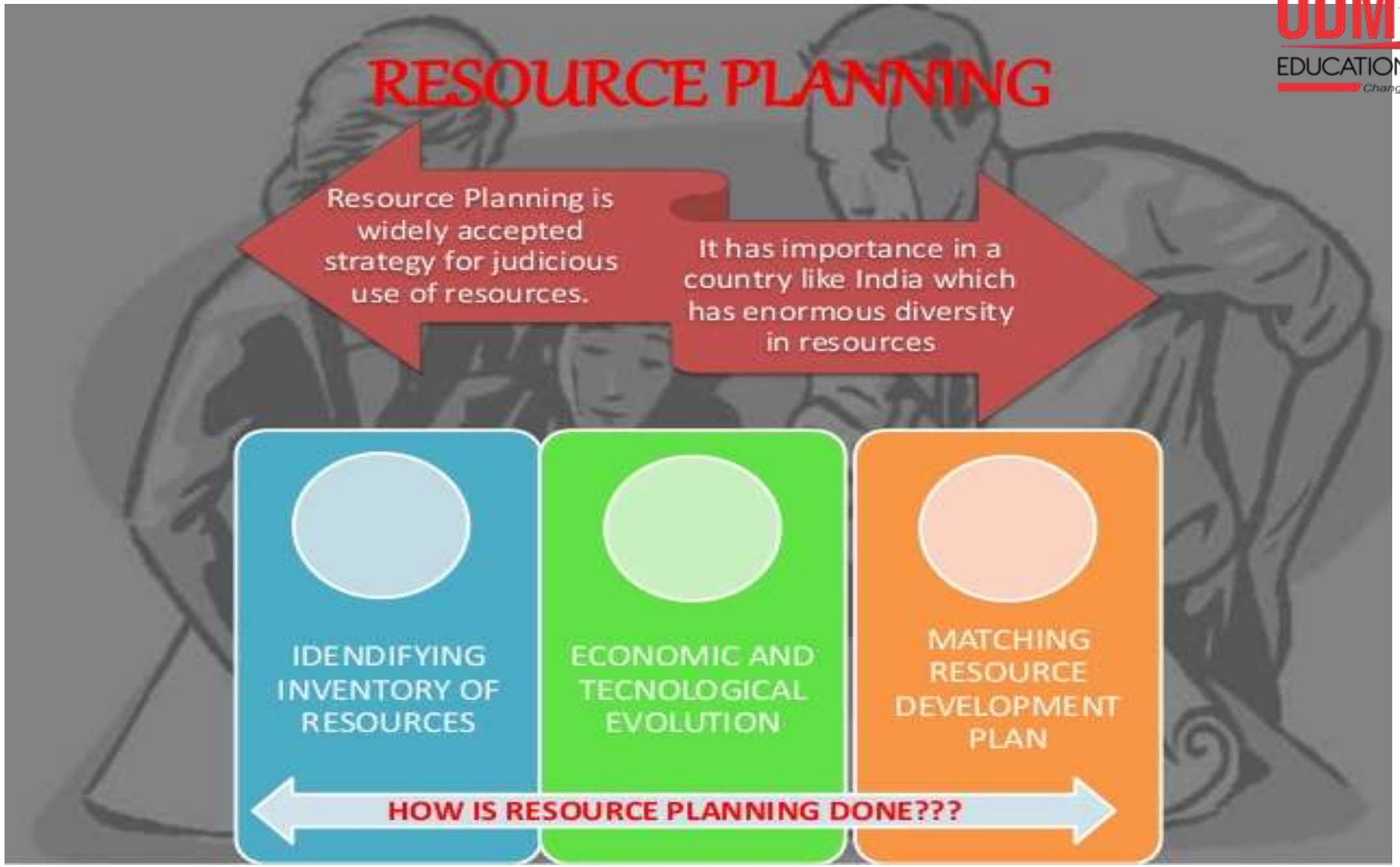
Planning is the widely accepted strategy for **judicious use of resources**. It has importance in a country like India, which has enormous **diversity in the availability of resources**.

There are regions which are rich in certain types of resources but are deficient in some other resources. There are some regions which can be considered self sufficient in terms of the availability of resources and there are some regions which have acute shortage of some vital resources.

For example:

- The states of Jharkhand, Chhattisgarh and Madhya Pradesh are rich in minerals and coal deposits.
- Arunachal Pradesh has abundance of water resources but lacks in infrastructural development.
- The state of Rajasthan is very well endowed with solar and wind energy but lacks in water resources.
- The cold desert of Ladakh is relatively isolated from the rest of the country. It has very rich cultural heritage but it is deficient in water, infrastructure and some vital minerals.

And hence we need, **BALANCED RESOURCE PLANNING AT THE NATIONAL, STATE, REGIONAL AND LOCAL LEVELS**.



# RESOURCE PLANNING in India



- Resource planning is a complex process which involves :

➢ (i) **Identification and inventory of resources** across the regions of the country. This involves surveying, mapping and qualitative and quantitative estimation and measurement of the resources.

➢ (Ii) **Evolving a planning structure** endowed with appropriate technology, skill and institutional set up for implementing resource development plans.

➢ (Iii) **Matching the resource development plans** with overall national development plans.

- Resources can contribute to development only when they are accompanied by appropriate technological development and institutional changes.
- To overcome irrational consumption and over-utilisation of resources, resource conservation at various levels is important.
- In India, development, in general, and resource development in particular does not only involve the availability of resources, but also the technology, quality of human resources and the historical experiences of the people.

# CONSERVATION OF RESOURCES



- Resources are vital for any developmental activity. But irrational consumption and over-utilization of resources may lead to socio-economic and environmental problems. To overcome these problems, resource conservation at various levels is important.
- For example, Gandhi ji was very apt in voicing his concern about resource conservation in these words: "**There is enough for everybody's need and not for any body's greed."** He placed the greedy and selfish individuals and exploitative nature of modern technology as the root cause for resource depletion at the global level. He was **against mass production** and wanted to replace it with the **production by the masses.**
- **NEED OF RESOURCE CONSERVATION:**

1. **For future generation**
2. **To ensure sustainable development**
3. **To avoid over utilization**
4. **To avoid pollution**
5. **To maintain ecological balances**

# IMPORTANT QUESTIONS

Q. Explain the words Gandhiji was against mass production and wanted to replace it with the production by the masses ?

- Mass production is the production of large amounts of products, using modern techniques. Mass production was introduced during British rule which made people to leave their villages, their home land, their crafts, and go to work in the factories for improvement of their financial and economic status.
- But, Gandhiji was against this concept of mass production. According to him, “not mass production, but production by the masses should be encouraged.
- "He felt that by adopting production by the masses, village working communities would be able to survive and restore their work done by their hands or small scale village industries. While **mass production is concerned with the product and profit, production by the masses is concerned with the product, the producers, and mainly the people.**

# Home Assignment:-

1. What are the consequences of resource over use?
2. What do you mean by sustainable development? Mention its objective.
3. When and where Rio-Earth Summit took place?
4. Explain AGENDA 21. Mention its major objective.
5. What is resource planning? How it is being done in India?

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# RESOURCE AND DEVELOPMENT

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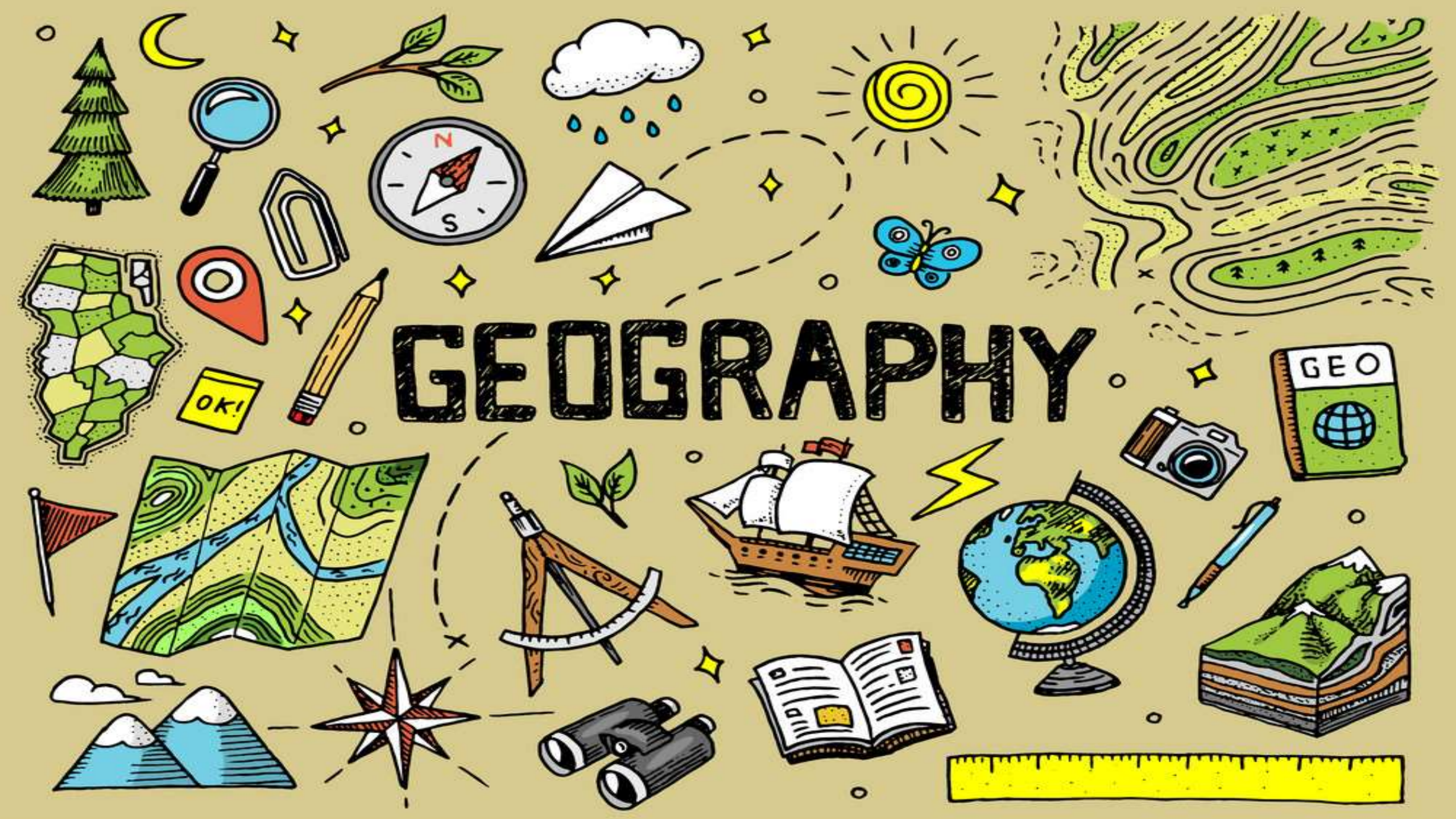
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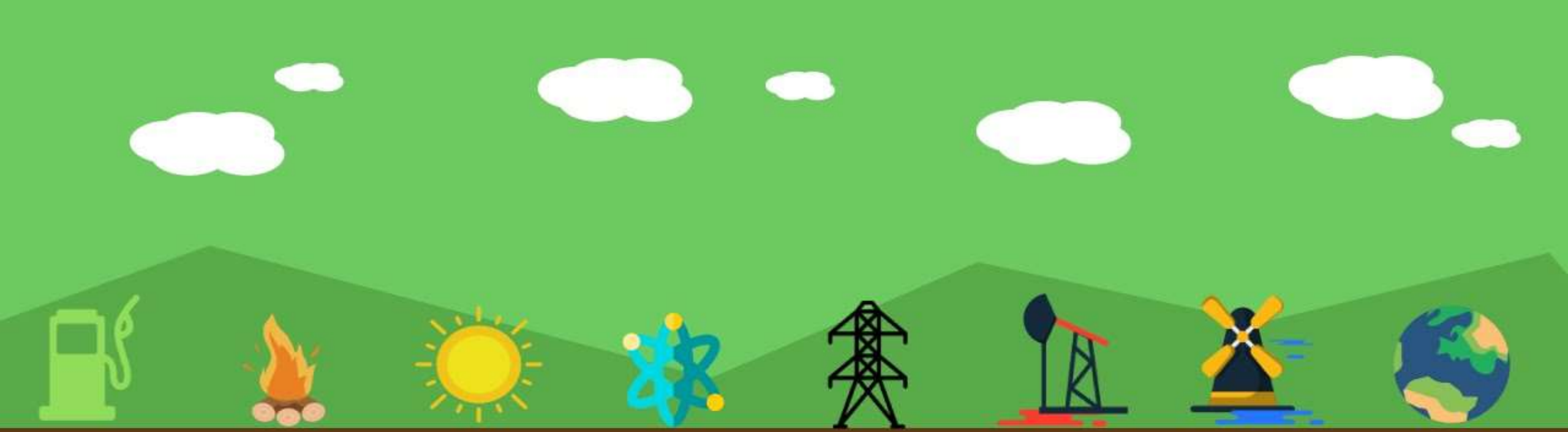
# INSTRUCTIONS TO FOLLOW

- **Get ready with your GEOGRAPHY copy and pen to note down the lectures.**
- **Turn off your Microphone and Camera.**
- **Be attentive during the session and do not send chat messages unnecessarily.**
- **No interruptions during the class. Ask DOUBTS only when allowed.**
- **Don’t select options like “Present Now” or any other option which might create disturbance in the session.**
- **Students are being strictly warned against any activity that can disrupt the order, like scribbling in the screen. Strict actions will be taken against them.**



# RESOURCES & DEVELOPMENT

## Chapter 1 - Class 10

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# RESOURCES

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

**Technologically accessible** means the **technology** needed to use the **resource** must be available so that we can extract it and make proper use of it.

**Economically feasible**: **Resources** are directly related with the economical development, so a proper **resource** should be **economically** beneficial for both the producer and user.

**Culturally acceptable** means it must be accepted by the people, it must not disturb or hurt their sentiments, culture, surroundings, home, etc.

# INTERDEPENDENT RELATIONSHIP BETWEEN PHYSICAL ENVIRONMENT, TECHNOLOGY AND INSTITUTION

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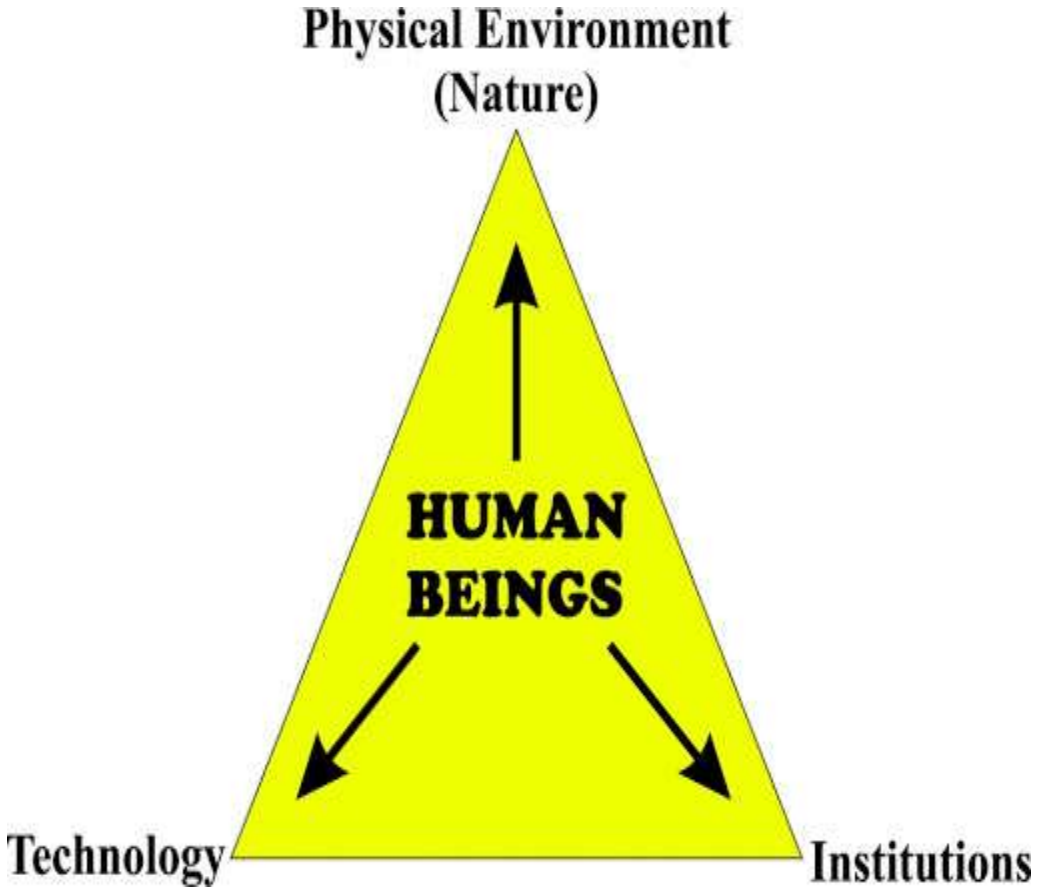
**Human beings interact with nature through technology and create institutions to increase their economic development.**

**Resources are not free as assumed by many. Resources are a function of human activities. They transfer material available in our environment into resources and use them.**



# CONSIDER THE FOLLOWING EXAMPLE-

- Think you have diesel (natural resource or nature).
- Then you have a car that runs on diesel and the technology of diesel refineries (technology).
- And then we have car factories and diesel refineries (institutions).
- So, if diesel is not present the other two would not be there. And if technology is not there, then there will not be diesel refineries and there will be no way we can use diesel properly. And if institution is not there, what is the use of technology as we cant produce the technology without the institutions like factories**. Therefore, all these are inter related / depended upon each other ( if one will not be their, the other can't exist.**

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## IMPORTANT

- Human beings interact with nature.
- They use technology to transform material available in the environment into resources.
- They create institutions to accelerate their resource development.

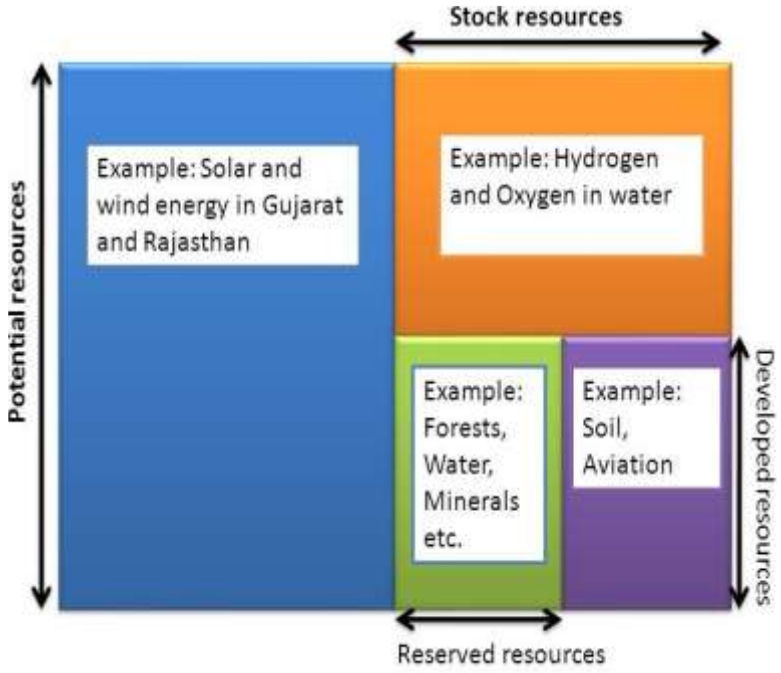
# BASIS OF RESOURCE CLASSIFICATION

**ORIGIN**



**EXHAUSTABILITY**

**OWNERSHIP**


**DEVELOPMENT**

# Home Assignment:-

1. Define resources? Give example.
2. How are nature, technology and institution interdependent on each other?
3. When a resource is consider to be technologically accessible? Give Example.
4. When a resource is consider to be economically feasible? Give Example.
5. When a resource is consider to be culturally acceptable? Give Example.

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# TYPES OF RESOURCE CLASSIFICATION

# BIOTIC RESOURCES/ ABIOTIC RESOURCES

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| Biotic Resources | Abiotic Resources |
|---|---|
| (i) These are obtained from Biosphere.<br>(ii) It consists of living components.<br>(iii) Some of these resources are renewable *e.g.*, flora, fauna, livestock, fisheries. | (i) These are derived from abiotic.<br>(ii) It consists of non-living components of the environment.<br>(iii) They are non renewable but some are recycled rocks, minerals *e.g.*, Air, water. |

# RENEWABLE AND NON-RENEWABLE RESOURCES

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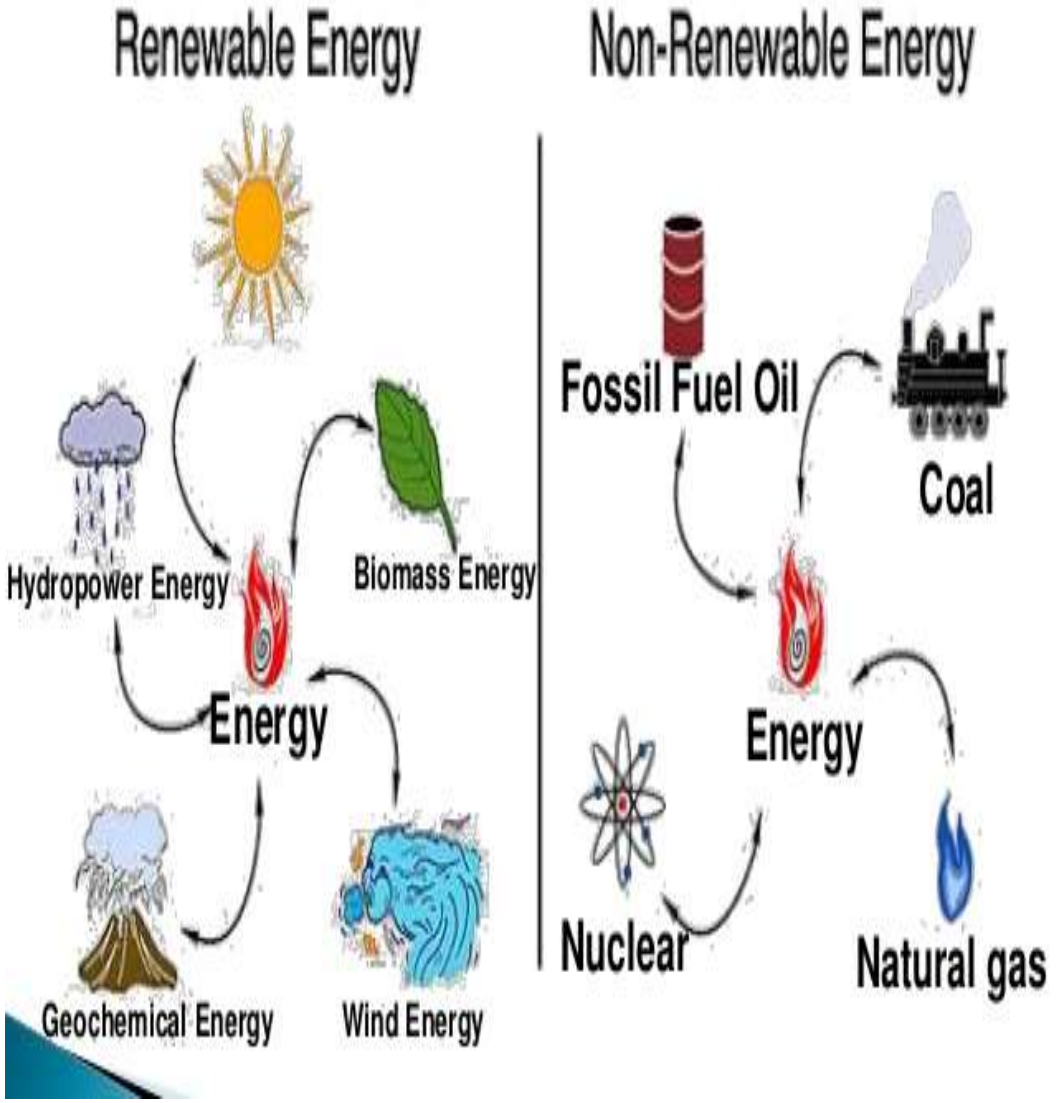
| Renewable resources | Non- renewable resources |
|---|---|
| Resources which can be renewed or can be reused are renewable resources. | Resources which cannot be renewed or reused once utilized are called non-renewable resources. |
| These include components like air, water, wind, sunlight etc. | These include components like fossil fuels, LPG gases. |
| They are sustainable resources. | They are exhaustible resources. |
| Their rate of renewal is greater than the rate of getting exhausted. | Their rate of renewal is slower than the rate of getting exhausted. |
| They are mostly environmental friendly and does not cause pollution. | They are the main cause of pollution. |



# INDIVIDUAL, COMMUNITY, NATIONAL AND INTERNATIONAL RESOURCES

| INDIVIDUAL RESOURCES | COMMUNITY OWNED RESOURCES |
|---|---|
| These are owned privately by individuals. | These are the resources which are accessible to all the members of the community. |
| Ex- In villages, Framer owns their land, pasture lands, ponds, plantation whereas in urban areas, people own plots, houses and other property. | Ex- In villages, we have common grazing grounds, burial grounds, village ponds whereas in urban areas, we have public parks, playgrounds, picnic spots, religious places etc. |

| NATIONAL RESOURCES | INTERNATIONAL RESOURCES |
| --- | --- |
| These are the resources which are owned by the particular nation. It belongs to the nation only whereas the other nation people don't any right to use. | These are the resources which belong to all the countries of the world and are regulated by some international institutions like International Resource Panel under UN Environment. |
| Ex-Roads, canals, railways, water resources, minerals, forests, wildlife, area within the political boundaries and territorial water. | Ex- Every country is given some rights over the oceans to a specific range, the oceanic resources beyond 200 nautical miles of the EEZ belong to open ocean and no individual country can utilise these without the concurrence of international institutions. |
| ❖ TERRITORIAL WATER : Oceanic area up to 12 nautical miles or 22.2km from the coast of the country. | ❖ EXCLUSIVE ECONOMIC ZONE:<br>Area extending seaward to a distance of 200 nautical miles or 370km out from a country's coastal baseline. |

| ACTUAL OR DEVELOPED RESOURCES | POTENTIAL RESOURCES |
| --- | --- |
| A **DEVELOPED RESOURCE** is that which humans have discovered, developed over a long time and is currently in use. | Natural elements which are already easily available but humans are yet to discover their real use are **POTENTIALRESOURCES**. They are not being used currently. |
| The actual quantity of an actual resource is known. | The entire quantity of a potential resource may not be known. |
| An actual resource might have been a potential resource in the past. It may end up in the future. | A potential resource can prove useful and become an actual resource in the future. |
| Ex-Most of the water, fossil fuel, minerals, plants and animals that we use for our need today, are developed resources. Their quality and quantity have been determined for utilization. | For example, Uranium deposits in Ladakh, solar and wind energy are two natural resources, which have a high potential for human life. Though we are using it, we can use these even more in the future once we understand their true potential. |

| STOCK | RESERVES |
| --- | --- |
| **R**esources that have the potential to satisfy human needs but human beings do not have the required technology to access these. | **R**esources that can be used with the help of existing technical ‘know-how’ but their use has not been started. |
| Ex- Hydrogen can be used as the source of energy but we do not have the technical know-how to use it for this purpose. | Ex-Water in the dams, Reserve Forests etc. |

# Home Assignment:-

1. Give classification of resources?
2. Differentiate between actual, developed and potential resources.
3. Give comparison between stock and reserves?

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