GEOGRAPHY OF RESOURCES

III-B.Sc GEOGRAPHY

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TOPIC : **CONSERVATION OF RESOURCES**

வளங்களைப் பாதுகாத்தல்

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Conservation of Resources

It takes millions of years for the formation of minerals. Compared to the present rate of consumption, the replenishment rate of minerals is very slow. Hence, mineral resources are finite and non- renewable. Due to this, it is important to conserve the mineral resources.

Conservation of Resources

Ways of Conserving Resources

- Controlling population growth will reduce the demand for resources.
- Creating social awareness regarding the importance of conservation of resources.
- Reusing and recycling of resources.
- Using the renewable source of energy as an alternative to non- renewable resources.
- Developing the usage methods which minimize the wastages.
- Propagating the environmental ill effects caused by various products.
- Choosing the products with less packaging.

வளங்களைப் பாதுகாத்தல்

கனிமங்கள் உருவாக பல மில்லியன் ஆண்டுகள் ஆகின்றன. தற்போதைய நுகர்வு விகிதத்திற்கும் , கனிமங்கள் மீண்டும் புதுப்பிக்கப்படும் விகிதத்திற்கும் இடையே உள்ள கால விகிதத்தை ஒப்பிடும்பொழுது மிகவும் மெதுவாக உள்ளது. எனவே கனிம வளங்கள் வரையறுக்கப்பட்ட மற்றும் புதுப்பிக்க இயலாதவையாக இருப்பதால் இவ்வளங்களைப் பாதுகாக்க வேண்டியது மிகவும் அவசியமாகிறது.

வளங்களைப் பாதுகாக்கும் வழிகள்

- மக்கள் தொகை வளர்ச்சியைக் கட்டுப்படுத்தி வளங்களின் தேவையைக் குறைத்தல்
- வளங்களைப் பாதுகாப்பதன் முக்கியத்துவத்தைப் பற்றி விழிப்புணர்வு ஏற்படுத்துதல்
- வளங்களை மறுசுழற்சி மற்றும் மறுபயன்பாட்டிற்குக் கொண்டுவருதல்
- அத்தியாவசியமற்ற வளங்களைப் பயன்படுத்துவதையும், ஏற்றுக்கொள்வதையும் தவிர்த்தல்.
- புதுப்பிக்க இயலாத வளங்களுக்கு மாற்றாகப் புதுப்பிக்கக் கூடிய வளங்களைப் பயன்படுத்துதல்
- கழிவுகளைக் குறைக்கும் பயன்பாட்டு முறைகளை முன்னெடுத்தல்
- பல்வேறு தயாரிப்புகளால் ஏற்படும் சுற்றுச்சூழல் பாதிப்புகளைப் பற்றிப் பிரச்சாரம் செய்தல்
- குறைந்த அளவில் உறையிட்ட பொருட்களைத் தேர்ந்தெடுத்தல்.

Conservation of water

- *Increase irrigation efficiency and reduce water wastage.*
- *Recycle industrial waste water.*
- *Construct waste water treatment plants.*
- *Reduce domestic water wastage.*
- *Adopt rainwater harvesting methods.*
- *Protect watersheds and afforestation to improve water economy.*
- *Never dump wastes and garbage in streams and river.*

VARIOUS METHODS OF WATER CONSERVATION

- Drip irrigation
- Rain water harvesting
- Plant vegetation
- Roof top harvesting
- Zero net deforestation

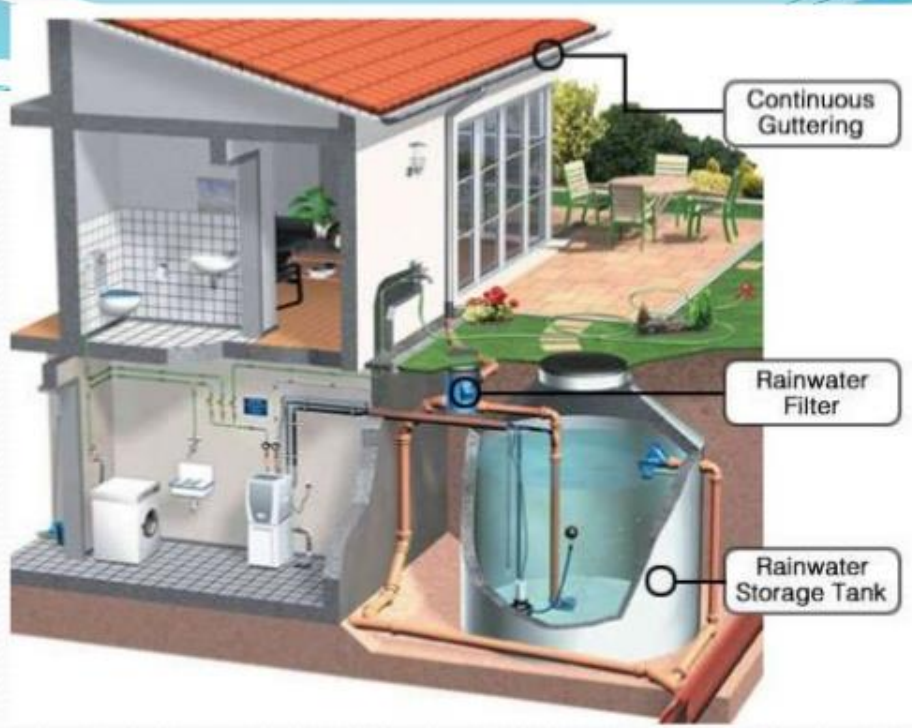
Zero net deforestation is the recent method of water conservation implemented in African countries due to lack of water. Zero net deforestation refers to no deforestation anywhere including restoring the forest areas , because it also has chances of destroying forest fields

Continued…

- Plant vegetation – planting agricultural crops can avoid the depletion of water table in …
- Drip irrigation – slow process of letting down the water to plant roots.
- Tie ridging methods – it is the method used instead of rain water harvesting in drought lands like Malawi in Africa

Continued..

- Soil management
- Weather applications
- Organic farming methods
- Bawri –a traditional method
- Infiltration
- Construction dams...



Forest resources

A forest is an area with a high density of trees. The trees grow to different heights.

Forests are home to 50-90% of earth's species

Forests meet the social, economic ,ecological, cultural and spiritual needs of human society

Functions of Forest Resources

Productive functions

- timber, bamboos, food, essential oils
- resins, alkaloids, latex, medicines etc.

Protective functions

- conservation of soil and water
- Prevention of drought
- Protection against, wind, cold, radiation, noise.

Regulative functions

- Absorption, storage and release of gases, water, mineral elements and radiant energy.
- Regulation of floods, draughts and biogeochemical cycles.

Chipko movement

- *A movement against felling trees initiated by Mr. Sundar Lal Bahuguna – 1972.*
- *The name of the movement came from a word meaning 'embrace': the villagers hugged the trees and thus saved them from the contractors' axes.*
- *Gandhian method of Satyagraha is used to save the forests in the Garhwali region in northern India.*

Conservation of minerals

Recycling – Minerals in products can be recycled.
Reuse – reuse the beneficial items e.g. glass bottles
Substitution – Scarce minerals can be substituted with more abundant minerals. e.g. ceramics, alloys
Reduce consumption – Consumers must decrease their mineral consumption.
Recycle industrial wastes – One industry may use the waste products of another industry.

Soil conservation

1. *Conservational tillage – Ploughing improves soil permeability, soil moisture and nutrients.*
2. *Organic farming – More organic inputs to soil.*
3. *Crop rotation – Growing legumes after cereal crops.*
4. *Contour ploughing – Ploughing with alternate furrows and ridges.*
5. *Mulching – Soil is allowed to remain untilled and is covered with plant litter*

Soil conservation

6. *Strip cropping – Planting in rows or strips.*
7. *Terrace farming – Slope is converted into terraces.*
8. *Agrostological methods – Grasses are grown in rotation or along with agricultural crops (lay farming).*
9 *Afforestation – Trees or wind breaks are planted in deserts.*

Sustainable Conservation

3. *Change – over in technology: Change is needed from resource – intensive and pollution – prone technologies to environment – friendly technologies.*
4. *Change – over is economy: The economic development must be environmentally sensitive and sustainable.*
5. *Scientific conservation: Conservation is the "global of efficiency". Scientific methods should be followed to manage nature and natural resources efficiently.*

LAND AS RESOURCE

- The most important natural resource, upon which all human activity is based since time immemorial, is land.
- Land resource is our basic resource.
- Throughout history, we have drawn most of our sustenance and much of our fuel, clothing and shelter from the land.
- It is useful to us as a source of food, as a place to live, work and play. It is a productive economic factor in agriculture, forestry, grazing, fishing and mining.
- It is considered as a foundation of social prestige and is the basis of wealth and political power

LAND DEGRADATION

- Man's progress towards development has, however, considerably damaged our land resource base, probably since the dawn of civilization.
- Out of the total land area, as many as 175 million hectares suffer from degradation.
- Land degradation is caused largely by soil erosion, but also by water logging and excessive salinity.
- The most serious threat to the land is posed by deforestation.

SOIL EROSION

- The top soil is precious to all living beings.
- The top soil is being continuously eroded by the different natural agents like air and water
- Accelerated erosion is due to overgrazing, deforestation, mining
- Two types of agents cause soil erosion: water and Wind

WATER INDUCED EROSION

- § Sheet erosion
- § Rill erosion
- § Gullies or gully erosion
- □ Slip erosion
- □ Stream bank erosion

RILL EROSION

Rill erosion is removal of soil by concentrated water flow, and it occurs when the water forms small channels in the soil as it flows off site.

GULLIES ARE LARGER THAN RILLS AND CANNOT BE FIXED BY TILLAGE. GULLY EROSION IS AN ADVANCED STAGE OF RILL EROSION, JUST AS RILLS ARE OFTEN THE RESULT OF SHEET EROSION.

WIND EROSION

- Wind erosion, unlike water, cannot be divided into such distinct types. Surface texture is the best key to wind erosion hazard potential.
- Its responsible for 3 types of soil movements
- SALTATION
- SUSPENSION
- SURFACE CREEP

SOIL CONSERVATION PRACTICES

- Following types of practices are employed
- Conservational till farming
- Contour farming
- Terracing
- Strip cropping
- Alley cropping
- Wind breaks or shelter belts

CONSERVATIONAL TILL FARMING

- Tillage is the agricultural preparation of the soil by mechanical agitation of various types, such as digging, stirring, and overturning.
- Examples of human-powered tilling methods using hand tools include shovelling, picking, mattock work, hoeing, and raking.
- Examples of draft-animal-powered or mechanized work include

CONTOUR FARMING

- On gentle slopes horizontal rows of plants
- Helps slow down run off