

A BRIEF OVERVIEW OF THE PREVIOUS CLASS (1:19 PM)

RAINWATER HARVESTING (1:29 PM)

- A technique of collection and storage of rainwater in natural reservoirs or infiltration of surface water into subsurface aquifers.
- The methods of rainwater harvesting involve rooftop collection, in situ recharge using recharge pits, surface water collection, storage, and recharge using ponds, lakes and check dams.

WATERSHED DEVELOPMENT (1:41 PM)

- A watershed is an area of land where all of the water that is under it or drains off it collects into one water body.
- Watershed development implies rational utilization of land and water resources for optimum and sustained production with minimum hazard to national resources.
- It involves the conservation and management of both surface and groundwater using watersheds as **a single unit**.

INTERLINKING OF RIVERS (1:49 PM)

- It's based on **K . L . Rao's** scheme of interlinking of rivers.
- It involved the transfer of water from the Surface basin of the Himalayas to the deficit basin of the peninsular region by developing 30 river links connecting 37 rivers.
- 14 links in the Himalayan and 16 in the peninsular region.
- **Benefits:**
 - Controls flood in the north and drought in the South.
 - Reducing water stress.
 - Expansion of the area of the irrigation network.
 - Groundwater recharge and enhances agricultural productivity
 - Inland fishing.
 - Hydroelectric power generation
 - Drinking water supply to cities.
- **Issues associated:**
 - **Environmental issues:**
 - Such as loss of biodiversity due to submergence and deforestation.
 - Impact the riverine ecology of both surplus and deficit basins, across the delta affects salinity, mangroves, delta, etc
 - **Economic issues:** - High cost of construction and maintenance.
 - **Administrative issues** -increase in conflict internal as well as international, Displacement of tribals, etc

NATURAL VEGETATION (2:12 PM)

- **World natural vegetation types:**
- **1) Tropical evergreen forest:**
 - Layered arrangement of vegetation, limited sunlight at the ground, low undergrowth, High biodiversity, no specific season of shedding leaves.
 - Regions- Amazon basin, equator, Venezuela and Columbia, parts of Central America, Congo basin, southeast Asian islands such as Indonesia, Malaysia, etc
- **2) Tropical deciduous forest:**
 - It is also called monsoon vegetation and sheds leaves during the dry season.
 - Region: - Towards the North and south of the equator, south Asia, Indochina, eastern Africa, northern Australia, and Southeast Brazil.
- **3) Mediterranean type of vegetation:**
 - Short bushes, small height, develop a deep root system.
 - No leaf shedding season, drought-resistant vegetation.
 - Examples of tree olives, oranges, grapes, and other citrus fruits.
 - Region- Around the Mediterranean region, California, Southwestern Africa, central Chile, SW, and southern Australia
- **4) Coniferous forest:**
 - Known for coniferous trees and needle-like leaves.
 - They remain evergreen.
 - They are also called boreal forests or taiga forests.
 - It's one of the largest stretches of vegetation on the surface of the earth nearly one-third but low diversity of less.
 - Region- Siberia, Europe Russia, Poland, Scandinavia, Canada and USA.

- **5)Mixed Forest:**

- Mix of broad leaves and coniferous.
- Uniform and moderate rainfall.
- Temperature is not too cold. Example British type of climate, Laurentian type, China type, etc

LUMBERING ACTIVITY (2:40 PM)

- **Conditions favoring lumbering activity in temperate regions:**
- Coniferous trees are Soft wood hence easy to cut and work upon on an industrial scale.
- Low biodiversity hence clear-felling is possible.
- Density of the forest is low hence easy to extract and transport.
- Easy replacement of vegetation in coniferous forests.
- Availability of technology for the lumbering industry.

NATURAL VEGETATION OF INDIA (3:22 PM)

- **Broadly Natural vegetation of India is classified into 5 types :**
- **1) Tropical evergreen:**
- **Divided into three types:**
- **I) Wet evergreen:**
- conditions are about 250 cm and above. richest biodiversity. A&N, rest of NE India, Western ghats, parts of WB, Odisha, Assam.
- Example- mahogany, Ebony tree, Rosewood tree, Laurel tree, jackfruit, Jamun tree, Rubber tree, and Irul Tree.
- **II) Semievergreen:**
- Conditions-> Rainfall greater than 200 cm. Surrounding the wet evergreen.
- **III) Dry evergreen-**
- Coromandel Coast with Winter precipitation.
- Example- tamarind tree, neem Tree, Jamun tree, toddy palm.
- **2) Tropical deciduous:** precipitation between 200 to 70 Cm.
- **Two types:**
- **I) Moist deciduous (200 to 100 cm)**
- Region:- eastern MP< parts of Odisha, Jharkhand, and Chattisgarh and parts of Karnataka and Maharashtra.
- Trees: Teak, Sal, Sheesham, Rosewood, almond tree, sandalwood.
- **II) Dry deciduous (100 to 70 cm.);**
- It covers a wide area from the Himalayas to Kanyakumari except for the regions of tropical thorn and moist deciduous.
- Trees: Red sanders (Found only in India- TN, AP, and Karnataka Trijunction. needed red soil, dry conditions, hilly region), Bamboo, Sandalwood, Sheesham etc

- **3) Tropical thorn:**

- Precipitation less than 70 cm.
- Also Known as xerophytic trees with adaptation:-Thorn instead of leaves, Green stems, stores water in stem, controlled opening of stomata, short bushes.
- Region-Rajasthan, Gujarat, Parts of Punjab and Haryana, rainshadow region of western ghats, etc
- Trees:- Khair, Babool tree, Axlewood, Prosopis Juliflora, Neam, Sheesham.

- **4) Montane forest:**

- Found in high altitude. (Low Temperature)
- Mountain vegetation with increasing altitude (Moist, mixed (up to 1500 m), coniferous (1500 to 3500 m), alpine (3500 to 4500 m),
- Summer grassland is called Bugyal.
- **Tree->** Oak, Deodar trees, Chir pine, Rhododendron, Juniper, Maplewood.
- **Region->** Entire Himalayas, parts of Vindhya and Satpura, parts of western Ghat.
- **5) Littoral and swamps**

THE TOPIC OF THE NEXT CLASS-

littoral and swamps, Mangroves, agriculture etc