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PHYTOGRAPHY AN INTRODUCTORY STUDY

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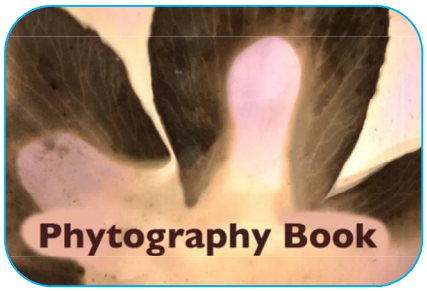
ABSTRACT:

Phytogeography or botanical geography is a branch of biogeography that deals with the geographical distribution of plant species and their effects on the earth's surface. Phytogeography deals with all aspects of plant distribution, from control over the distribution of individual species ranges, large and small, to species controlling the entire community and the elements that control plant structure. Geobotany, by contrast, focuses on the effects of geographic space on plants.



KEY WORDS: *Performance, Evaluation, Rating Scale, Volleyball.*

INTRODUCTION

Phytogeography or botanical geography is a branch of science that studies the geographical distribution of plant species. The word 'phyto' is derived from the two words 'plant' and 'geography' meaning distribution. It covers all aspects of plant distribution including the regulation of individual species and constituents and the structure of communities and plants. Phytogeography covers various areas such as environment, plants (plants), plants (plant communities) and origins. Phytogeography is usually divided into two main branches: environmental phytogeography and historical phytogeography. Ecological phytogeography deals with the role of biological and inorganic interactions on plant distribution, while historical phytogeography deals with the historical reconstruction of the origin, dispersal, and extinction of taxa. Alexander von Humboldt has been called the "father of phytogeography." This branch of science helps to understand the ways in which species adapt to the environment. This is done by studying the specific characteristics of the population. These patterns are called environmental laws.

PHYTOGEOGRAPHICAL REGIONS OF INDIA:

The phytogeographical region is defined as a region of uniform climatic conditions that contains clearly identifiable vegetation. India can be divided into nine geographical regions.

- Western Himalaya
- Eastern Himalaya
- Indus Plain
- Gangetic Plan
- Central India
- Deccan
- Western cost of Malabar

- Assam
- Bay Island of Andaman and Nicobar

Deccan:

The Deccan region covers the southern part of the country. It is also known as Peninsular India, and starts from South Madhya Pradesh to Kanyakumari except the Western Ghats. The region is characterized by the presence of black soil which helps in the growth of cotton. The average annual rainfall in the region is about 100 cm. The vegetation consists of dry evergreen, dry deciduous and swampy forests. The most important plants in the region are Michelia champaca, Delenia aurea, Chloroxylon swetania, Cedrella tuna, Santalum album and Pterocarpus centalinus. Shrubs mainly include Hibiscus, Zizyphus pneumularia, Gravia, Bauhinia, Woodfordia, Caparis, Lagerstromia, Holrena, Cassia auriculata, Acacia arabica, Parkinsonia aculeta, Calotropis procera, Jatropha grandif. Climbers include Hiptage, Cassytlea, Dioscorea, Ipomoea, Vitis and Smilax. (Medicine - Delete) Grass and palms such as Bambusa arundinacea, Dendrocalamus, Borasus phlebelifer, Phoenix sp. Commonly found in the region. Some thorny plants like Brugiera, Seriops, Avicenia are also reported from this region.

Malabar:

The region stretches from Gujarat to Kanyakumari along the Western Ghats. This region includes the states of Kerala, Maharashtra, Gujarat and Karnataka. The climate is warm, humid with annual rainfall of more than 400 cm. The climate is tropical in the coastal areas and temperate in the hills. The vegetation consists of wet evergreen, moist evergreen and moist deciduous forests. The Eucalyptus has wet temperate forests (sholas) while the salt marshes are found in saline marshes along the coast. There are different types of forests in this area:

- Temperate Evergreen Forests - The area includes Nilgiri, Palani, Annamalai and Tirunveli hills. Plants include trees with red leaves. (Example - Delete) Some common species are - Meliosma viti, Michelia eucalyptus, Rhododendron eucalyptus, Toddalia, Clematis, Impatins, Arisema, Symbopogon etc.
- Subtropical Evergreen Forests - The major plants in this area are Memesilon, Szigian, Atenblica officinalis, Murraya Koenigi, Rhododendron nilgiricum, Smilax, Piper, Clematis etc.
- Tropical Evergreen Forests - Area includes Mysore Plateau, West Ghats, Coorg and Annamalai Hills. Dense evergreen plants include Dilenia pentogina, Terminalia balerica, Artocarpus pellatata, Cinnamom zelenicus, Ilenicus, Ilenicum, etc.
- Plants are found in the forests of Kharput - Ellora, Elephanta, Bombay Suburbs, Mudh Island, Arabian Sea, etc. The major plant species found in the region are Rhizophora, Bruguera periviflora, Ceriops tagel, Candelia candle, Xylocarpus grantum acanthus, Psilocarpus grantum acanthus etc.

Indus Plain:

This area includes Gujarat, Delhi, Rajasthan, Haryana and Punjab. These include drylands, plains, deserts and orchards. The climate varies with dry and hot summers with dry and cold winters. Annual rainfall is generally less than 70 cm. The vegetation consists of tropical thorny forests and grasslands. The Indus plain is divided into 3 types of vegetation, tropical dry deciduous, tropical thorny and dry shrub.

Gangetic Plain:

The region runs from Delhi to the Sunderbans of Bengal through Bihar, Orissa and Uttaranchal. These include dry deciduous (scrub) and moist deciduous plants. The average annual rainfall is 50 to 150 cm. Plants include tropical wet deciduous forests, dry deciduous forests, thorny forests and thorny forests. Similar plants are found in the Indus region and the Ganges region, hence it is called the Indo-Gangetic plain. The plain is divided into upper Gangetic plain, lower Gangetic plain and Sunderbans.

Assam:

These areas include Brahmaputra, Jaintia, Khasi and Garo Hills, Mishmi Hills, Northern Himalayas, Santosh River, Naga, Kachar and Mizo Hills, Mizoram, Meghalaya, Nagaland, Manipur, Tripura and Assam. The climate is characterized by high temperatures and rainfall. The vegetation consists of tropical evergreen and humid temperate forests in the lower plains, and subtropical pine forests in the highlands up to 1700 m. The region receives good rainfall and is densely forested.

Eastern Himalaya:

The Eastern Himalayas include the mountain ranges from Sikkim to Arunachal. More than 4000 sp. Phanerogams and lower plants of 160 families are found in this region. The Eastern Himalayas are mainly divided into 3 regions, namely, tropical, temperate and alpine zones.

Central Himalaya:

Central Himalayan region includes Nepal, Kumaon Himalayas to the west and Sikkim Himalayas to the east. The region is divided into western, central and eastern Nepal. These include Acer cappadoscicum, Quercus floribunda, Populus ciliate, Shorea robusta, Bombax, Gmelina, Petalidium, Clerodendron, Bauhinia vahlii, Quercus, Alnus, Rhododendron, Pinus, Eriobortya, Linera, Lindera, Lindera, Liner. , Lyonia, Spiraea, Cornus, Zanthoxylum, Bauhinia, Albizzia, Saccharum arundinaceum, Cymbopogon martini, Quercus, Acer, Alnus, Mesua, Cyathea, Fraxinus, Polydiapiacenoum.

Andaman and Nicobar Islands:

There are a large number of islands in this region. Few of the larger islands are inhabited by humans, while a large number of smaller islands have virgin vegetation due to the absence of humans. The climate of this region is warm and humid with very high temperatures and annual rainfall. The vegetation consists of coastal mangroves, evergreen, semi-evergreen and deciduous forests. This region is very rich in biodiversity.

Biodiversity Hotspot:

A biogeographic region that has a high diversity of flora and fauna is called a biodiversity hot spot. These regions serve as important reservoirs of biodiversity and are therefore considered threatened terrestrial ecosystems. They represent only 2.5% of the Earth's land surface, but they support more than half of the world's plant species as endemics. About 45% of bird, mammal, reptile and amphibian species are endemic to these ecoregions. Worldwide, 36 regions have been identified under the category. The remaining natural habitats in these biodiversity hotspots account for only 1.8% of the planet's land surface and support about 60 percent of the world's plant, bird, mammal, reptile, and amphibian species.

Forests are also considered as biodiversity hotspots. Norman Myers gave this concept in 1988. They identified 25 biodiversity hotspots. He considered the tropical forest as a 'hotspot' of biodiversity. Hot spot regions exhibit exceptionally high levels of plant endemism and support about 60% of the world's plant, bird, mammal, reptile and amphibian species. For any region to be identified as a hotspot, it have two criteria:

- Species Endemism: A region must have at least 1,500 species of vascular plants (0.5% of the world total) as endemic, i.e. a high percentage of plant life found in the region.
- Degree of Threat: The region has lost at least 70% of its original habitat or is in danger of losing native natural vegetation or primary vegetation.

Hot spots are the richest but most threatened reservoirs for plant and animal life on Earth. Each area has unique biodiversity and represents a high level of floral and faunal endemicity. They have maximum number of endemic species. Previously hotspot areas covered about 16.2% of the Earth's land surface but today they cover only 2.7% of the Earth's surface. About 88% of the hotspot habitat has been destroyed. It includes 160,000 plant species as endemics and 11,990 terrestrial vertebrates as endemics. About 22,044 terrestrial vertebrate species live in hotpot areas. Reptiles and amphibians are

at higher risk of endemicity than mammals and birds. Hotspot areas contain 55% of the world's endemic plant species and 44% of all terrestrial vertebrates. Hotspots have lost about 88% of their original habitat and are additionally believed to be at risk of extinction due to climate change. Biodiversity patterns are formed through the interaction of topography, climate change, soil characteristics and seasonal rainfall. Species endemism has been studied by considering the number/area ratio of endemic plants and the ratio of endemic vertebrates/area.

CONCLUSION:

Increasing population and over-exploitation of bio-resources is causing great loss of biodiversity. Major threats to biodiversity are pollution, climate change, increase in atmospheric CO_2, introduction of exotic species. About 30 years ago, most of the biodiversity hotspot regions were remote and inaccessible but now due to better infrastructure these areas are within the reach of humans. Human activities such as logging, extensive agriculture, settlement, mining, construction, deforestation, pollution have reduced the species' ranges.

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