

# Vegetation type of India with special reference to ASSAM

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India is one of the 17 Mega biodiverse countries in the world and accounts for 7-8 % of the recorded species. The State of Assam is a constituent unit of the Eastern Himalayan Biodiversity Region; one of the two biodiversity “Hot Spots” in the country. The climatic condition and wide variety in physical features witnessed in Assam have resulted in a diversity of ecological habitats such as forests, grasslands ,wetlands, which harbour and sustain wide ranging floral and faunal species placing.

The climatic conditions cause prevalence of not and highly humid weather in this part of country and coupled with heterogenic physiography make possible luxuriant growth of a number of plant communities imparting Assam a distinct identity phyto-geographically, many a species are endemic to this region and it is also the center of origin for commercially important plants including Banana, Citrus, Mango, Zizyphus, and Tea. The array of floristic richness has prompted many a scholars to describe Assam as the “Biological Gateway” of North East. The eminent Plant Taxonomist and Plant Geographer Armen L. Takhtajan observed, “Cradle of flowering plants lies in between Assam and Fiji”.

## **Diverse Plant Communities**

In the “Revised Survey of Forest Types in India”, Champion and Seth categorized as many as fifty one different forest types/ sub types for this region. But, the species diversity is so spectacular that it becomes often difficult to clearly identify separate riche to existing plant formations. However, broadly speaking the forest in Assam can be described into following types/ sub types.

- Tropical Wet Evergreen Forests.
- Tropical Semi Evergreen Forests.
- Tropical Moist Deciduous Forests.
- Co-ordinate the activities of the Biodiversity Management Committees;
- Sub-tropical Broadleaf Hill Forests.
- Sub-tropical Pine Forests.
- Littoral and Swamp Forests.
- Grassland and Savannahs.

Tropical Wet Evergreen Forests are found in the districts of Golaghat, Jorhat, Sibsagar, Tinsukia, Dibrugarh and in a narrow stretch in Lakhimpur and Dhemaji districts along foot hills. These forests also occur in the southern part of the State at lower elevations in Borail Range, and in Loharbund, Sonai, Longai and Dholia Reserve Forests in Cachar and Karimganj Districts.

Hollong (*Dipterocarpus macrocarpus*), the tallest tree of Assam and also the “State Tree” is the most predominant constituent of these forests. The associated species are Borpat, Jutuli, Sam, Dewa sam, Nahar, Teeta chap, Bhelu, Mekai etc.

Forests in Southern Assam have, however, *Dipterocarpus terbinatus*(Garjan) in association with *Mesua ferrea* (Nahar), *Mesua floribunda* (Bolong), *Michelia glabra* (Champ), *Palaquium polyanthum* (Kathalua) etc.

Tropical Semi Evergreen Forests occur mostly in Hallangapar, Abhoypur, Dilli, Dhansiri, Kholahat, Mayong, Garbhanga, Rani, Mahamaya, Guma, Haltugaon, Kachugaon, Gali, Pobha, Ranga, Kakoi, Nauduar, Batasipur, Dohalia, Singla, Longai, Bhuban Pahar, Sonai, Barak and Inner Line Reserve Forests along Northern and Southern parts of the State.

These forests have mostly medium size trees with few large trees. Shrubs, lianas, climbers, orchids and ferns grow copiously. At the fringe bamboos and canes occupy the space.

Species association and frequency of their occurrence vary from forest to forest, but the ones commonly found are *Actinodaphne obovata* (Petarichawa), *Aesculus* species (Ramanbih), *Artocarpus chama*(Sam), *Albizia* species(Siris, Sau, Koroi), *Anthocephalus chinensis* (Kadam), *Duabanga grandiflora* (Khakan), *Castanopsis* species (Hingori, Dhobahingori, Kanchan),*Dillenia indica* (Ou-tenga), *Bauhinia purpurea* (Kanchan), *Lagerstroemia* species(Jarul, Ajar,Sidha), *Magnolia* species(Phulsopa, Gahorisopa, Pansopa, Kharikasopa, Kathalsopa, Duleesopa),*Mallotus* species(Sinduri, Joral, Dudhloti, Buritokan), *Michelia champaca*(Teeta camp), *Syzygium* species(Paharijam, Mokrajam, Berjamu, Kolajamu, Bogijamu, golapjamu). *Schima wallichii* (Bolem,Ghugra), *Terminalia* species, (Hilikha, Bohera, Bhomora), *Trewia nudiflora*(Bhelkor), *Hatipolia*, Holok etc.

Moist Deciduous Forests can further be described as Sal Forests and Mixed Deciduous Forests. Sal Forests occupy considerable forest area in the Central and Lower parts of the State in the Districts of Nagaon, Morigaon, Kamrup, parts of Nalbari and Barpeta, Darrang, Dhubri, Kokrajhar and Goalpara.

In these forests, Sal grows in association with Lagerstroemia species(Jarul, Ajar), Schima Wallichii(Ghugra), Stereospermum personatum (Paruli), Adina cordifolia (Haldu), Artocarpus species (Sam), Ficus species(Bor, Dimoru, Dhupbor, Bot, Athabor, tengabor, Lotadoru, Khongaldimoru), Bischofia javanica (Uriam), Gmelina arborea (Gomari), Michelia champaca(Teeta champa), Terminalia species (Hilikha, Bhomora, Bohera). Toona ciliate (Poma) etc.

Moist Deciduous Mixed Forests occur at the foot of hills in Lakhimpur, Dhemaji, Karbi-Angong and N. C. Hills districts. Trees are mostly deciduous with sprinkling of few evergreen and semi-evergreen species. Important plant species growing in these forests include Adina cordifolia9 Haldu), Albizia species(Siris, Kolasiris, Koroi, Sau) Alstonia scholaris(Satiana), Artocarpus chama (Sam), Careya arborea(Kumbhi), Dalbergia species(Sissoo, Medelua), Ficus species (Bot, Bor, Dimoru), Lagerstroemia species (Jarul, Ajar), Mallotu species (Senduri, Joral, Dudhloti) etc.

These forest harbour rich diversity of shrubby and herbaceous ground vegetation. Some of the Reserve Forests also have teak plantations.

Bordering Moist Deciduous Forests in rain shadow areas are found forests which has been referred to as “Dry Forests” by Kanjilal. This type of forests are encountered in the Lumding, Langting, Mailongdisa Reserve Forests. A typical example is the Umananda Island in the middle of Brahmaputra North of Guwahati. Important species include, *Aegle marmelos*(Bel), *Albizia* species(Siris), *Cassia fistula*(Sonaru), *Bombax* (Simul), *Alstonia scholaris*(Satiana), *Ficus* species(Bor), *Litsea* species(Loban, Bagnola, Mezankori, Honwalu, Digloti) *Melia azedarach*(Neem), *Moringa oleifera*(Sajana), *Orosylum indicum*(Bhatgila), *Mallotus* species(Senduri), *Terminalia* species(Hilikha, Bhomora) etc.

Sub-tropical Broad Leaf Hills forests and Sub-tropical Pine forests occur in the districts of Karbi-Anglong and N. C. Hills. Species commonly occurring are *Alseodaphne petiolaris*(Banhawalu), *Antidesma bunius*, *Betula alnoides*, *Cleidon speciflorum* etc. Higher up pure stands of *Pinus kesiya*(Khasi-pine) are found particularly in the Hamren sub-division in Karbi-Anglong district.

Grass land and Savannahs are grass dominated biomes and form the major part of vegetation in Kaziranga National Park, Pobitora, Orang, Sonai-Rupai, Laokhowa, Barnadi, Burachapori, Dibru-Saikhowa Wildlife Sanctuaries and some part in Manas National Park. Grasslands support important wildlife population in Assam. Important grasses are *Apluda mutica*, *Phragmatis karka*, *Sclerostachya fusca*, *Saccharum* species etc. These species grow gregariously at the onset of monsoon and grow even upto 6 meters tall.

Littoral and Swamp forests have almost lost their identity because of biotic pressure on land. Presently sedges and grasses form the largest component of vegetation. Important species include *Ageratum conyzoides*, *Alocasia* species, *Alpinia* species., *Amaranthus* species., *Bacopa* species., *Blumea* species., *Bombax* species., *Crotolaria* species. etc.

### **The orchids of Assam**

In Assam as many as 293 species of Orchids are reported which represent 44.39% of North.East species and 24.42% of species occurring in India. Species belonging to genera *Acanthephippium*, *Anoectochilus*, *Apostasia*, *Agrostophyllum*, *Coelogyne*, *Cymbidium*, *Dendrobium*, *Eria*, *Oberonia*., *Calanthe*, *Eulophia*, *Geodorum*, *Habenaria*, *Malaxis*, *Nephelaphyllum*, *Vanilla*, *Zeuxine*, *Didymoplexis*, *Galeola*, *Bulbophyllum*, *Camarotis* are the commonly found orchids.

### **Bamboos in Assam**

Bamboos have gained considerable importance in the socio-economic life of people in Assam for the variety of uses they cater to. Altogether 38 naturally growing species of bamboo are recorded in Assam of which *Bamboosa masrtersei* is restricted in distribution to Dibrugarh district. *Bamboosa cacharensis*, *Dinochloa compactiflora*, *D.india* are restricted to Barak Valley. *Chimnobabusa griffithiana* and *Oxetenanthera parviflora* are restricted in distribution to N.C.Hills. *Bambusa rangaensis* grows wild in the Ranga R.F. of Lakhimpur district. *Bamboosua vulgaris* is the introduced species cultivated throughout Assam as ornamental plant.