

## **PLS 317 PLANT ECOLOGY AND FIELDWORK**

### **LLECTURE-1**

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**TOPIC: PLANT COMMUNITIES**

Plant community can be defined as the collections of different plant species found together within a certain geographic area called the ecosystem.

#### **Characteristics of plant communities**

1 Plant communities must contain more than one plant species

2 A plant community must consist of species that are ecologically related and they can grow together. Example is different species of trees found in the rainforest

3 A plant community is a community well organized in terms of structure and composition. This organized system is due to interaction among different plant species and their environment.

#### **Vertical stratification of plant communities**

Vertical stratification can be defined as layering formation by different life plant forms which is as a result of competition adaptation and natural selection.

Types of vertical stratification in a plant community

1 Dominant layers: This layers are formed by large trees and their upper part is called tree canopy or tree crown.

2 Secondary layers: This layers contains shrubs. Shrubs are shorter than large trees and they are found below the crown of large trees. They can also be called the shrubby layer.

3 Third layer is a layer made up of herbaceous plants and it can also be referred to as the herb layer.

4 The fourth layers represent mosses on the ground surface and it can also be called the moss layer or ground layer

## **Types of plant communities**

### **(1) Forest**

The forest is mainly characterized by evergreen large trees with some herbaceous plants. Regions where forests reside are characterized by high volume of rainfall. There are 6 types of forest and they are

- 1 Tropical rainforest
- 2 Temperate rainforest
- 3 Tropical deciduous forest
- 4 Evergreen deciduous rainforest
- 5 Needle leaf evergreen forest
- 6 Evergreen hardwood

### **(2) Woodlands**

Woodlands are open stand of trees but the trees are not clustered (very close) together. They are scattered within certain areas.

### **(3) Savannah**

This contains trees that are mostly less than 10m in height and they are scattered like in woodlands but they have grassed in-between them which occur seasonally.

### **(4) Scrub**

This type is made up of mainly shrubs with some species of herbs and grass found within the area.

### **(5) Prairie**

This contains mainly grasses and occasionally some shrubs may be found within.

### **(6) Meadow**

This is made up of herbaceous plants. Plants in form of herbs are the main component of this plant community.

#### (7) Steppe

This is contain bunch of grasses in which in-between the bunches are some low shrubs.

#### (8) Desert

This is made up of poor ground cover and sparse vegetation containing shrubs and herbs.

### **Plant population**

A plant population is a total number of individuals of a certain plant species in a community. For example the total number of *Acacia xanthiflora* in OOU campus is the population of *Acacia xanthiflora* in OOU.

### **Plant population distribution**

This is the total number of population of plant species that exist within certain geographic context. For example the population of *Cola acuminata* we have in different parts of Nigeria is the population distribution of *Cola acuminata* in Nigeria.