# HABITAT ANALYSIS

# **INTRODUCTION**

The habitat is commonly described as the place where organisms live and usually identified into two levels- macrohabitat and microhabitat. Macrohabitat generally encompass a relatively broader area of where community of organisms live. Tropical forest or grassland are examples of macrohabitats. Within a tropical forest, there is place where population of species directly interacts and exists, and this is known as microhabitat. The microhabitats of ants or populations of macrofungus are some examples of this habitat.

Habitat is also considered as a biophysical entity that is made up of many dimensions including temporal and spatial dimensions, physical-chemical dimensions and the biotic components. Description of these dimensions allows for generation of information on the characteristic of the habitat where a population of community lives. This ecological technique is known as habitat analysis or habitat description. Macrohabitat description usually involves a more generalized description of a habitat, whereas microhabitat analysis involves more specific information that is generated from focused and detailed set of other ecological techniques (e.g transect sampling, trapping of small mammals, chemical analysis of bodies of water). The level of the collection of data greatly depends on the objective of the analysis. Some examples of useful applications of habitat analysis are: ecological inventories, environmental impact assessment and for basic ecological research (e.g. testing of hypothesis).

In this exercise, the basic skills of conducting an ideal macrohabitat analysis will be demonstrated.

Objectives: At the end of the exercise the students should be able to:

Learn the basic techniques for characterization of habitat
Develop the skill of gathering data for habitat analysis
Develop the skill of planning and designing of appropriate bebet tacalysis. **I.** Document Research
Make a summary of all the promission about deepabitat that you will be describing using all the materials (published articles) reports and maps the action of you). This information maybe anything that tells about the temporal/spatial, physical-biological and biotic dimensions of the habitat about the temporal/spatial, physical-biological and biotic dimensions of the habitat.

# A. Spatial Information

Maps are very important material to derive initial information about the habitat to describe. Among these, satellite images and topographic maps can now be easily accessed (e.g. through Google Earth). The internet is also a powerful source of information for any other relevant information about the spatial dimension of a habitat that one plans to study. To demonstrate, we will use UP Baguio Campus as an example. Locate this on the map. Provide the information that is being asked:

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- 1. Political Information:
- 2. Latitude/Longitude:
- 3. Distance from a known reference point (KM 0):
- 4. Landmark:
- 5. Topographic Information
  - a. Elevation:
  - b. Slope Direction and other characteristics:
- 6. Area: \_\_\_\_\_

# THE ECOSYSTEM, EDAPHIC AND CLIMATIC FACTORS

### **INTRODUCTION**

Ecosystem is considered as the basic unit of ecology since it involves two components and the twoway interactions between them. The simple autotroph-heterotroph-decomposer/reducer classification is a good working arrangement for describing ecological structure of biotic community. On the other hand, the simple production-consumption-decomposition is useful term for describing overall function. The biotic components include the producers, the consumers, and the decomposers. The abiotic components are the complex of physical factors, which include the climatic factors (light, temperature, humidity, and wind), the edaphic factors (soil nutrient, acidity, and moisture), and the topographic factors (aspect, angle of slope, and altitude). Whatever ecosystem

# I. CLIMATIC FACTORS

Climate is usually the result of the interplay of various factors, which include the seasonal temperature, humidity, precipitation, and light conditions. Weather on the other hand, refers to the momentary conditions of the atmosphere. Both the climate and weather patterns affect the distribution and activity of both terrestrial and aquatic organisms.

# **Objectives:**

- 1. Familiarization with common climatological factors.
- 2. Observe relationships that exist among such factors.
- 3. Learn simple field instruments to measure specific climatic elements

# **Materials:**

tape measure marking ben inalking tape data notebooe 3 01 14 Laboratory thermometer Slingshot psychrometer Soil analyser **Preview** 

# **Procedures:**

Three sites: Parking space; In front of PIC/ Pagta, lower of KA/ beside HKP. At three random points within the study area, measure the physical conditions. Describe and present a clear illustration of both temporal and spatial dimension of the said areas.

A. Temperature

Measure the aerial temperature by suspending a laboratory thermometer for 3 mins before taking any reading. Record all values in °C.

B. Light intensity

Hold a light meter at arm length in front of you in a way where the light sensing plate is directed towards the direction of the sun. Report all values in foot candles.

C. Relative humidity

Moisten with clean water the cloth wrapped around the end bulb of the wet bulb thermometer of a sling psychrometer. Rotate the slingshot in the air for 2 min then get the wet bulb and dry bulb reading.