

Study of flora and fauna in College premises

A Project

In partial fulfilment of Environmental Science AECC – 1

Submitted by

Roll No.....

Semester 1.

St. Joseph's College, Darjeeling

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Introduction:

Biodiversity refers to all forms of living organisms. It includes plants, animals and micro-organisms from terrestrial, aquatic and marine ecosystems. Biodiversity is most commonly equated in terms of biological species. Therefore, species is the currency for measuring biological diversity. They are ubiquitous and are found in all forms of landscape. The forest ecosystems have greater number of species than farmland, or semi-urban and urban landscapes. Occurrence of species also varies in different ecosystem and ecological zones.

They form mosaic in a landscape either as domesticated crop plant or farm animal or wild forms. Biological organisms are natural resources for present and future they may be directly utilized as food, medicine, shelter or for recreational or aesthetic purpose. Much of the rural people rely on these biological resources for their livelihood. The cultural, aesthetic and recreational value of biodiversity is enormous which cannot be equated in terms of monetary terms. Therefore, knowledge of biodiversity plays important role for the survival of future.

There are many plants and animals present in and around us which are playing vital role in maintaining nutrient and hydrological cycle, or providing various ecosystem services for maintaining food chain. We are not aware of it or ignorant about their role in sustaining the ecosystem. It becomes important to see all the biological species as equals. More importantly so, to know the biological resources around us in view of increasing number of biopiracy happening around the globe.

As part of the environmental science curriculum, the students of 1st Semester Botany (Honours) were given the task of documenting the flora and fauna of College campus.

Aim of the study:

The aim of the study is to document the important plant and animal groups present within the College campus premise

Study area:

St. Joseph's College is spread over 6.25 acres of land. It is geographically located

at 27° 03' 34.6" N latitude and 88° 15' 00.58" E longitude at an elevation of 1960 m above sea level. Almost 60% of the 5.25 acres are occupied by College building and remaining area constitutes open space mostly in the central part. The slope behind the main building is a garden maintained by Botany Department. The northern side is occupied by a small patch of forest. This patch of forest along with the open spaces and garden is inhabited by diverse group of temperate vegetation. Information on the study area is provided in **table 1**

Map showing St. Joseph's College campus (Source: Google Earth)

Table 1 Information of study area

Name of the Place	St. Joseph's College
Taluk	Darjeeling
District	Darjeeling
State	West Bengal
Area of the Premise	6.25 acres

Geographical Location	27° 03' 34.6" N lat. and 88° 15' 00.58" E long.
Altitude	1960
Habitat & Topography	Semi-urban; Hilly topography

Methodology

Documenting all forms of life is beyond the scope of the project. Here documentation of only broad groups of floral and faunal diversity has been attempted. To document plants and animals of the campus format of Peoples Biodiversity Register (PBR) provided by National Biodiversity Authority (NBA) with modification has been followed. Preliminary identification was done by the students. Authentication of the identity of plants was done with the help of Botany Department. For identification of faunal diversity, literatures, websites and help of teachers have been sought.

All the documentation of species is based on the visual observation. Attempt has been made only to document the names of the plant and animals and not quantify. For documentation of plants, four major categories have been recognised on the utility of plants as ornamentals, timber plants, fruit plants and medicinal plants. For animals broad groups such as mammals, birds, reptiles and insects have been recognized.

Results

1. Floral diversity:

A total of 53 species of plants have been identified under medicinal plants, ornamental, timber plants and fruit plants. Local names, where ever possible and their location in the campus have been provided. Inventory list of these species are provided separately under respective heading.

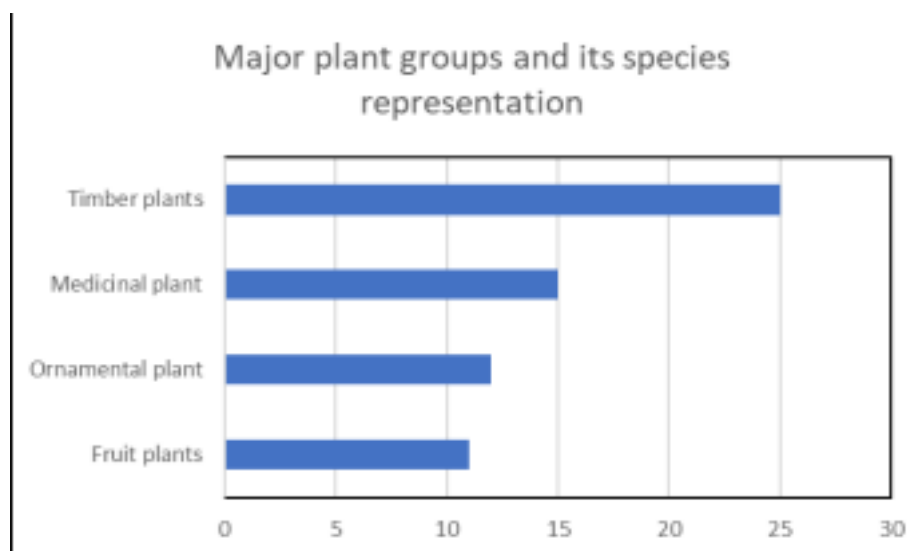


Figure 2 Numbers of plant groups encountered in College campus

i. Medicinal plants: The college campus harbours 15 species of medicinal plants. Different parts used and their uses has been recorded based on interview with knowledgeable people. These plants are used for treating various types of ailments.

Table 2 Medicinal plants of the College campus

Sl No.	Local name	Scientific name	Location	Parts used	Uses
1	Pakhenbed	<i>Bergenia ciliata</i>	Garden west side	Stem and rhizome	
2	Budo okhati	<i>Aestilbe ruvilaris</i>	Garden west side	Root stock/ rhizome	Cold and cough
3	Basak	<i>Dichroa febrifuga</i>	Garden west side	young shoot	Fever
4	Ban tarul	<i>Dioscorea deltoidea</i>	Garden west side	Root tuber	diabetes
5	Chutro	<i>Mahonia nepalensis</i>	Garden west side	Stem	diabetes
6	sano chutro	<i>Berberis aristata</i>	Garden west side	Stem/root	
7	teeta pati	<i>Artemisia vulgaris</i>	Open spaces west side	leaf/young shoot	nose bleeding
8	banmara	<i>Eupatorium adenophorum</i>	under forest canopy	leaf/young shoot	cuts and wounds
9	<i>Houttunia cordata</i>		Near Standford hall	whole plant	
10	Lali gurans	<i>Rhododendron arboreum</i>	Western side of forest near Loyala hall	flowers	
11	Poison Ivy	<i>Hedera helix</i>	Garden west side	leaves	

12	<i>Hypericum urulum</i>		Garden west side	young shoot	
13	Bhangray sisnu	<i>Zirardiana maxicana</i>	Western side of forest near Loyala hall	inflorescence	Blood pressure
14	Patley sisnu	<i>Urtica parviflora</i>	Western side of forest near Loyala hall	inflorescence and shoot	Blood pressure
15	Kukur diney	<i>Smilax ferox</i>	Northern side near gate 2 (forest)	root	Anaemia

ii. Ornamental plants: 12 species of plants have ornamental value. They are either grown as garden ornamental or avenue species. Out of these 6 are tree species and adorns different parts of the College

Table 3 Ornamental plants of the College campus

Sl No.	Local name	Scientific name	Location
1	dhupi	<i>Chaemicyperus piscifera</i>	Front side of the college
2	<i>Magnolia grandiflora</i>	Garden on the slope western side	
3	Gurans	<i>Rhododendron arboreum</i>	North western side behind main building
4	Maple	<i>Acer palmata</i>	Near Silver Jubilee building
5	Canadian Maple	<i>Acer canadensis</i>	Garden and near Arupe refractory
6	Orchid	<i>Coelogyne corymbosa</i>	North western side in the forest
7	Azaelea	<i>Azaelea sp</i>	near Xavier hostel
8	Lash phool	<i>Hydrangea</i>	near Standford hall
9	Chimal	<i>Rhododendron grande</i>	near Standford hall
10	-	<i>Hedychium gardenarium</i>	near Standford hall
11	-	<i>Rosa sp</i>	near Standford hall
12	-	<i>Aeschynanthes sikkimensis</i>	near Standford hall

iii. Fruit plants: There are 11 species of fruit plants in the campus. Some of them are economically important such as *Malus pumila*, *Prunus domestica*, *Prunus persica*, *Juglans regia*. Many of these species are introduced and cultivated in the garden maintained by Department of Botany.

Table 4 Fruit plants of the College campus

Sl No.	Local name	Scientific name	Location
1	Arucha	<i>Prunus domestica</i>	Planted in garden
2	Aru	<i>Prunus persica</i>	Planted in garden
3	Kimbu	<i>Morus indica</i>	South side near main building
4	Kamuna	<i>Eugenia operculatum</i>	North side near gate 2
5	Purple cherry	<i>Prunus ceracifera</i>	Garden on the slope western side
6	Apple	<i>Malus pumila</i>	Near Arupe House
7	Lapche Kaulo	<i>Machillus edulis</i>	forest Near student toilet
8	Katus	<i>Castanopsis hystrix</i>	forest Near student toilet
9	Aiselo	<i>Rubus ellipticus</i>	near Xavier hostel
10	Okhar	<i>Juglans regia</i>	near Loyala hall
11	Bhadrasey	<i>Elaeocarpus sikkimensis</i>	Northern side of forest

iv. Timber Plant: 25 species of timber yielding species have been recorded. Most of the species are found in the forest sector in the northern side. Avenue trees like *Chaemicyperus piscifera* and *Cupresus* sp are planted in the front side of the campus for beautification.

Table 5 Timber plants of the College campus

Sl No.	Local name	Scientific name	Location
1	Katus	<i>Castanopsis hystrix</i>	Western side of forest near Loyala Hall
2	Lekh chinauney	<i>Nyssa javanica</i>	Near students toilet
3	Kapasi	<i>Acer campbellii</i>	near Standford hall
4	Uttis	<i>Alnus nepalensis</i>	near Campion Hall
5	Pipli	<i>Exbucklandia populnea</i>	Near students toilet

6	Bhujpatra	<i>Prunus cerasoides</i>	along the road near Loyala hall
7	Dhupi	<i>Cryptomeria japonica</i>	Western side of forest near Loyala Hall
8	Vadrasey	<i>Elaeocarpus sikkimensis</i>	Northern side near gate 2
9	Okhar	<i>Juglans regia</i>	Western side of forest near Loyala Hall
10	Lapche kaulo	<i>Machillus edulis</i>	Near students toilet
11	Titey Chanp	<i>Alcimandra cathcarthii</i>	Western side of forest near Loyala Hall
12	Mahua	<i>Englehardtia spicata</i>	Western side of forest near Loyala Hall
13		<i>Glochidion acuminata</i>	Western side of forest near Loyala Hall
14	Malata	<i>Macaranga indica</i>	Near students toilet
15	Rani chanp	<i>Michelia doltsopa</i>	Near students toilet
16	Cupresus	<i>Cupresus</i>	Near students toilet
17	Lali Gurans	<i>Rhododendron arboreum</i>	Western side of forest near Loyala Hall
18	Kapasi	<i>Acer thomsonii</i>	Near students toilet
19	Chanp	<i>Magnolia campbellii</i>	behind Standford hall
20	Kaulo	<i>Litsea sp</i>	Near students toilet
21	Salix	<i>Salix babylonica</i>	behind Xavier hostel
22	Dhupi	<i>Chaemicyperus piscifera</i>	Western side of forest near Loyala Hall
23	Ghigini	<i>Eurya thaeifolia</i>	Northern side near gate 2
24	Maya	<i>Eryiobotria paniculata</i>	Northern side near gate 2
25	Dudhilo	<i>Ficus cunia</i>	Western side of forest near Loyala Hall

2. Faunal Diversity:

A total of 25 species were observed and recorded under 4 major categories – Mammals, birds, reptiles and insects. Scientific names of the insects could not be determined. Identification is done on their common names. Information on the location and abundance has been provided.

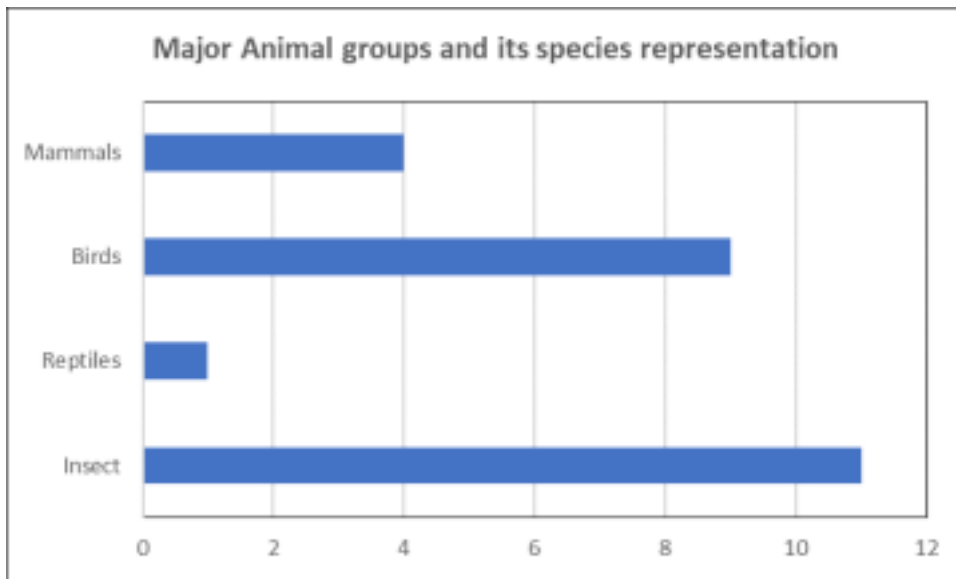


Figure 3 Major animal groups encountered in College campus

i. Mammals: Only 4 species of mammals were recorded in the campus. Among them are Orange billed Himalayan squirrel, rats, mole and monkey. The first 3 were frequently sighted and the monkey as occasional visitor. **ii. Birds:** Nine bird species have been sighted in different parts of the campus. Most of them were resident species and frequently seen. Hill Mayna is the only species that migratory, usually seen in campus during October/November when fruits are available in the forest.

iii. Reptile: The reptile diversity is very poor in the temperate region. Only one reptile species was recorded in the campus - the common 'Chepara'. They are observed only during the summers.

iv. Insects: By far the largest group observed in the campus are the insects. Various types of insects were recorded. However, due to lack of taxonomic expert, only the common name has been provided. Many of them are common seen throughout the year, yet others like Cicada is seasonal seen only during October/November.