

Eco-taxonomic Study on the Vegetation of Barkatuallah University Campus, Bhopal

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Abstract - This research paper present Eco taxonomical studies of flora of Barkatuallah University Campus area, Bhopal. Special emphasis on Medicinal plants. Bhopal is known as city of lakes. It has some hilly tracks covered with luxuriant vegetation along with fertile pleatue suitable for number of crops, forest area are represented number of crops. Forest area represented by Mined deciduous forest. Barkatuallah University Campus are covered a number of plant species includingherbs, shrubs, trees, species. A number of plant species also have significant value.

Keywords: Medicinal herb, Folk, Medicine, Biodiversity, Deciduous forest, Family, Traditional floristic composition, Frequency flora.

I. INTRODUCTION

Environmental impact assessment is tool for decision makers to identify potential environment impacts of proposed project, EIA of developmental projects with special reference to environmental, economical, social appraisal of public sector projects of India with its glorious past of traditional medicines system. India is one of its eight major centres, of origin having rich biodiversity. India is one of 17 mega diverse countries of world with 2.5% of the land area. India already account for 7.8% of Global recorded species.

Bhopal is known as city of lakes, it has some hilly tracks covered with luxuriant vegetation along with fertile pleatue. Medicinal plants play important role in providing healthcare in human beings. The demand of medicinal plants is increasing day by day both developing and developed countries.

In recent years the uses of plants in traditional system has increased in Ethan botanical studies throughout the world. In fact (WHO) world health organization estimates 70% of population from many countries are using traditional folk medicine to cure various ailments. It can provide very effective strategy for discovery of new herbal medicine. Environmental Impact Assessment EIA is the formal process used to predicts the environmental consequences to take plant policy program to take decision related project Environmental Impact Assessment as part of increasing awareness of environment. Environmental

Impact Assessment is an simplest form of a planning tool that is now generally regarded components. At the end of project it evaluates the accuracy of the EIA by actual to predicts results.

The objective is to make future EIA more valid and effective. Barkatuallah university campus area covered 360 acres of land located at Jabalpur-Jaipur National highway. This city is rich in Natural vegetation covered various types of plantspecies. It has pleasant climate quiet less fluctuation in Temperature. Clijnate is usually dry except monsoon season indicating seasonal rhythm of weather.

The awareness about floristic composition is required for understanding of Ecosystem of Bhopal Barkatuallah University area.

II. MATERIAL & METHODS

Barkatuallah University campus area rich in vegetation and a collection of plants which are used as medicine.

Field survey was done in three seasons summer, rainy and winter season in Barkatuallah University Campus area. The study was started in summer, Rainy, Winter season during three years March - April 2014 to June July 2016

For vegetation study Quadrate method was adopted. No quadrate square 50x50 cm and 10 quadrate laid down in each seasons summer, rainy, winter at different places in Barkatuallah University Campus area. In different season frequency, density abundance of herbs shrubs, trees and climbers are calculated.

III. PROPOSED METHODOLOGY

Data was recorded in tabular form and photographs of some medicinal plants. Plants collected dried and herbarium sheets were prepared and identified with the help of flora of Hooker and flora of Bhopal.

Frequency, density, abundance of vegetation of Barkatuallah University Campuswere studied by following formula (Shukla, Chandel 1991).

Frequency of plant species was calculated by following formula:-

Frequency (%) = (Total number of quadrates in which species occur / Total number of quadrates studied) x 100

Relative Frequency of species % = (Frequency of species/ Total frequency of all species) x 100

Following plants were listed along with its corresponding genera and species studies in field survey of B.U. campus area, Bhopal during field survey 2014 -2016

List of Plants according to alphabetically arranged found in the campus of Barkatuallah University. Bhopal

TABLE 1. LIFE FORMS - TREES

S. No.	Botanical name	Common name	Family
1.	Acacia Arabica	Babool	Fabaceae
2	Agelemarmelos	Bael	Fabaceae
3	Altsoniascholoris	Saptarni plant	Apocynaceae
4	Annonasquamosa	Custard apple	Annonaceae
5	Azadirachitaindica	Neem	Meliaceae
6	Bahuniavarigeta	Kachnar	Fabaceae
7	Buteamonosperma	Palash	Fabaceae
8	Callistemon species	Bottle brushes	Myrtaaceae
9	Careyaarborea	Kumbhi	Combretaceae
10	Carica papaya	Papita	Cariaceae
11	Cassia fistula	Amaltash	Fabaceae
12	Cassia tora	Panwar	Fabaceae
13	Citrus lemon	Lemon	Rutaceae
14	Citrus sinensis	Orange	Rutaceae
15	Dalbergasisso	Shisham	Fabaceae
16	Delonixregea	Gulmohar	Fabaceae
17	Diospyrosnielanxylo n	Tendu plant	Ebenaceae
18	Emblicaofficinalis	Aamla	Phyllanthiaceae
19	Emerendusindica	Imli	Fabaceae
20	Eucalptusdenglupta	Eucalptus	Myrtaaceae
21	Ficusbanghalensis	Bargad or Banyan tree	Moraceae
22	Ficusracemosa	Gular	Moraceae
23	Ficusreligiosa	Pipal	Moraceae
24	Jacaranda puberula	NeeliGulmohar	Bignoniaceae
25	MaducaLongifolia	Mahua	Sapotaceae
26	Megniferaindica	Mango	Anacardiaceae
27	ManikaraZapota	Chikoo	Sapotaceae
28	Micheliachampa	Champa	Mangloiaceae
29	Morusnigra	Sehtoot	Moraceae
30	MoringaOleifera	Surjana	Moringaceae

31	Murrayakenigii	Curry patta	Rutaceae
32	MurrayaPaniculata	Orange Jasmine	Rutaceae
33	Nerium oleander	Pink kaner	Apocynaceae
34	Nyctanthesarboritis	Harsingar	Oleaceae
35	Neolamarkiacadaba	Kadamba	Rubiaceae
36	Phoenix dactylifera	Khajur	Arecaceae
37	Pongomiapinnata	Karanj	Leguminaceae
38	Psidium guava	Guava	Myrtaaceae
39	Rauvolfiaserpentina	Sarpgandha	Apocynaceae
40	Santalum album	Sandal	Santlaceae
41	Sarcaasoca	Ashok tree	Fabaceae
42	Syzgiumcumini	Jamun	Myrtaaceae
43	Terminaliaarjuna	Arjuna	Combretaceae
44	Thevetiaperuviana	Yellow Kaner	Apocynaceae
45	Vachellianilotica	Australian babool	Fabaceae
46	ZiziphusJuuba	Ber	Rhamnaceae

TABLE 2. LIFE FORMS - HERBS

S. No	Botanical name	Common name	Family
1	Aloe vera	Indian aloe	Xanthorrhoeaceae
2	Alterantheississilis	Drawf copper leaf	Amaranthaceae
3	Andrographispaniculata	Kalemegh	Crassulaceae ,,
4	Asparagus ramosus	Satavar	Asparagaceae (Liliaceae)
5	Baccopamonneri	Brahmi	Plantaginaceae
6	Bryophyllumpinnatum	Air plant or Miracle plant	Crassulaceae
7	Cymbopogon citrus	Lemon grass	Graminaceae
8	Euphorbia hirta	Asthma plant	Euphorbiaceae
9	Kalanchoepinnata	Patharchatta	Crassalaceae
10	Memosapudica	Touch me not	Malvaceae
11	Menthaarvensis	Podina	Laminaceae
12	Menthapiperata	Piperment	Laminaceae
13	Petalium murex	Gokhru	Acanthaceae
14	Sidacordifolia	Heart leaf side	Malvaceae
15	Solanumnigrum	Makoi	Salonaceae
16	Trachyspermurnamni	Ajwain	Apiaceae
17	Tridaxprocoumbens	Tridax	Asteraceae
18	Withaniasomnifem	Ashwagandha	Solanaceae

TABLE 3. LIFE FORMS - SHRUBS

S No	Botanical Name	Common name	Family
1.	Bogenvallia	Thorny ornament vines	Nyctaginaceae

2	Brassica compestris	Sarso	Brassicaceae.
3	Canna indica	Canna indica	Cannaceae
4	Calotropisgigentea	Madar	Asclepinaceae
5	Clarissa carnadav	Carondas	Apocynaceae
6	Catharanthusroseus	Sadabahar or vinciarosea	Apocynaceae
7	Clinioreaternatea	Aparigita	Fabaceae
8	Cynadondactyln	Doob	Poaceae
9	Ehretialaevis	Bajarjanti	Ehretiaceae
10	Hibiscus rosasinensis	Jason or Gudhal	Apocynaceae
11	Ixoracoccsinea	Ixora species	Rubiaceae
12	Jatropacurcas	Ratanjot	Euphorbiaceae
13	Lantana camas	Wild sage	Verbanaceae
14	Lawsoniaintermeris	Henna	Lyranthaceae
15	Ocimum sanctum	Tulsi	Lamin.aceae
16	Partheniumhysterop horus	GajarGhas	Asteraceae .
17	Phyllanthusnirurri	Stone breaker	Euphorbiaceae .
18	Punicagranatum	Pomegranat e or Anar	Lyranthaceae _
19	Rauvolfia ,serpentine	Snake root or Sarpghandha	Apocynaceae
20	Tagetesterecta	Marigold	Asteraceae
21	Thuja species	Vidhya	Thujaceae
22	Vitexnirgundi	Nirgundi	Vitaceae

TABLE 4. LIFE FORMS - GRASS

S No	Botanical name	Common Name	Family
1	Bambuseae bamboo	Bamboo	Poaceae
2	Cynadondactyln	Doob	Poaceae
3	Cyprus rotandus	Grass	Poaceae

TABLE 5. LIFE FORMS - CLIMBER PLANTS

S. No	Botanical name	Common Name	Family
1	Cuscutareflexa	Amerbael	Cuscutaceae
2	Glorisuperba	Colchicaceae	Colchicaceae
3	Ipomea fistula	Panpatta	Convolvulaceae
4	Tinosporacordifolia	Giloy	Menispermaceae

These are rare plants observed in survey of the campus of Barkatullah University, Bhopal.

Rauvolfia Serpentina, vitexnirgundi, Lawsoniaintermeris, Asparagus ramosus, Hibiscus rosasinensis, jatropacurcas, Andrographispaniculata, Aloe vera, Baccopamonneri, Trachyspermumaamni, Kalanchoepinnata, Ocimum sanctum, Catharanthusroseus, Pongomiapinnata, Sarca, asocaClintoreaternatea, Baccopamonneri, Memosapudica, Blyophyllumpinnatum, .Menthapiperata, Cymbopogon citrus, Tinosporacordifolia, Solanumnigrum, Punicagranatum

These are plant species are observed Barkatullah university campus area in abundant.

Aherantherasissilis, Euphorbia hirta, Sidacordifolia, Thidaxprocombens, Bambuseae bamboo, Cynadondtactyln, Cyprus rolandus, Bahuniavarigeta, Lantana camara, Partheniumhysterophores, Thuja, Santalum album, Delonixregia, Cassia tora, Cassia fistula, Calotropis, gigantea, Azadirachitaindica, Nyctanthersarborstis, Eucalptusdenglupta,Ehretialaevis, Phyllanthusnirurri, Bogenvallia, Ziziphusjubba, Vachellianilotica, Asparagus ramosus, Terminaliaarjuna, Altsoniascholoris, Psidium guava, Carissa carnadas, Dhatura alba, Catharanthusroseus, Emerendusindica, Eucalptusdenglupta, Buteamonosperma.

IV. SIMULATION/EXPERIMENTAL RESULTS

This section describes the plant Species collected in the field of Barkatullah University campus area for calculating Frequency, Density, abundance during Summer Season March – April 2014-15.

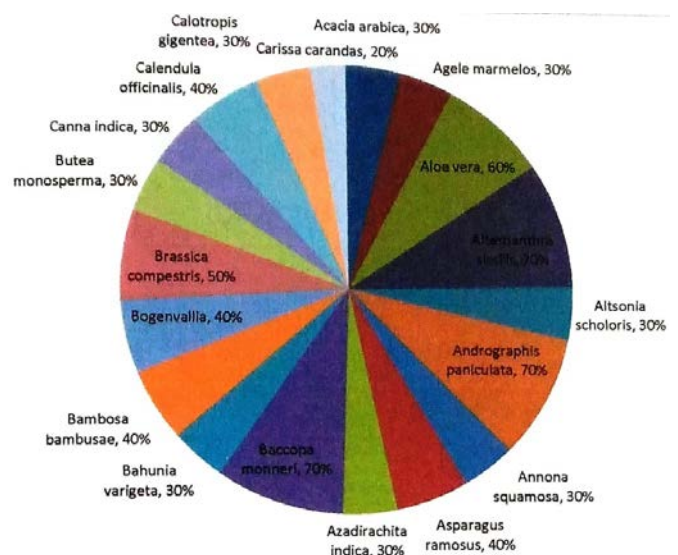


Fig. 4.1 Plant Species collected during summer Plant Species collected in the field of Barkatullah University campus area for calculating frequency, density, abundance during winter season Nov – Dec 2015-16



Fig. 4.2 Plant Species collected during winter

V. CONCLUSION

Medicinal plants are used for personal healthcare. Medicinal plants include, annual and perennial species of wild and cultivated plants. In which Trees, shrubs, herbs and climbers are present in Barkatullah University campus area. Some plants also used as food and they contain a variety of different nutrients and therapeutic constituents, like vitamins, micro elements, tannins and mucilage etc. Medicinal plants are important for rural area people. These medicinal plants is free from side effects. Generally wild herbs are weed which are unwanted plants and available in all places everywhere. Plants and plant parts have been used by people, from longer time than we have been keeping the written records of plants. Originally it is found all plant are wild. These wild plants have no effect of availability of water and soil condition. These plant grow easily in almost everywhere. These plants and plant parts have medicinal importance.

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