

JIGNASA PROJECT: 2020-21

TITLE: FLORA OF KAKATIYA GOVERNMENT COLLEGE



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Abstract:

The Department of Botany, Kakatiya Government College, Hanamkonda initiate to take project as part of Jignasa on FLORA OF KAKATIYA GOVERNMENT COLLEGE CAMPUS to explore the total vegetation of the campus with the aim for preparation of permanent Digital Flora. The flora reference to “all the plant life occurring in a particular region or time, generally the naturally occurring (indigenous) native plants.” The quantitative Data was collected in different seasons to explore the plant wealth, and each plant was documented with scientific name, local name, phenology and other characters. And Classified plants as per Bentham and Hooker’s classification. An annotated checklist was prepared which comprises more than 242 plant species and representing a high spatial heterogeneity of green spaces. The quantitative data represents all types of plants which include herbs, shrubs, trees, medicinal, climbers, hydrophytes etc. Different life- forms were documented as of now herbs 107, shrubs 25, trees 80 climbers 13, xerophytes 12, and hydrophytes 05, were recorded during the study. Of these, about 22 ornamentals, 25 wooden tree, 24 medicinal plants etc were recorded. Distribution of taxa, species diversity, composition, life-forms, invasive alien species diversity , major threats in urban area general and on college campus particular studied. Flora of particular area is utmost important to recreate the quality of air we breath, the water we drink, the soil that produce our food, meet the ecological needs etc. Based on the object of this project we are planning to Improve the greenery with native flora. Creating awareness to the student. Protection of native plants by campaign. And prepare a permanent digital flora for future reference.

Introduction:

Kakatiya Government College was established in the year 1972. With the extant of an area about 5 acres, Campus area covered with green lustre, The flora of the campus cover all types of plants. Botanical Garden was also established in area about 0.5 acre .

Role of flora in Urban areas:

Flora play an important role in urban environment/urban ecosystem, ie

- To mitigate the pollution

- Improve Greenery
- Beautification
- Aesthetic value
- To meet the urban ecological services
- Phytoremediation

Data Collection:

- Intensive exploration of plant wealth
- Data Collected in different seasons
- Each plant was documented with scientific name, local name, phenology and other characters
- Colour photographs of important species preserve digitally
- Herbarium prepared for available plants.
- Classified plants as per Bentham and Hookers classification.

DATA COLLECTION



Herbs and Ornamentals

SNo	Scientific name	Family	Local Name
1	<i>Acalypha indica</i>	Euphorbiaceae	muripinda/
2	<i>Acalypha wilkesiana</i>	Euphorbiaceae	acalypa
3	<i>Bougainvillea spectabilis</i>	Nyctaginaceae	kagithpula chettu
4	<i>Ficus benjamina</i>	Moraceae	figus
5	<i>Thevetia peruviana</i>	Malvaceae	pachaganneru
6	<i>Ixora coccinea</i>	Rubiaceae	nuruvarahalu
7	<i>Plumeria rubra</i>	Apocyanaceae	devaranneru-red flower
8	<i>Plumeria alba</i>	Apocyanaceae	devaganneru-white flower
9	<i>Hibiscus rosa- roja</i>	Malvaceae	mandhara
10	<i>Bauhinia purpurea</i>	Fabaceae	devakanchanam/bauhinia
11	<i>Conocarpus erectus</i>	Combretaceae	conocarpus
12	<i>Ravenala madagascariensis</i>	Musaceae	east west plant
13	<i>Cycas ramphii</i>	Gymnosperm	cycas
15	<i>Tradescantia spathacea</i>	Commelinaceae	
16	<i>Musa paradisiaca</i>	Musaceae	banana/arati
17	<i>Almunda cathartica</i>	Apocyanaceae	
18	<i>Thuja orientalis</i>	Cupressaceae	thuja
19	<i>Jasminum sambac</i>	Oleaceae	malle
20	<i>Tabernaemontana divaricata</i>	Apocyanaceae	kanakambaram
21	<i>Araucaria araucana</i>	Gymnosperm	Christmas tree
22	<i>Roystonea regia</i> (Royal palm)		Royal palm

Trees:

SNo	Scientific name	Family	Local Name
1	<i>Peltophorum pteocarpum</i>	Ceasolpinaceae	peltophorm
2	<i>Azadiracta indica</i>	Meliaceae	neem/vepa
3	<i>Dalbergia sissoo</i>	Fabaceae	sissoo
4	<i>Samania saman</i>	Fabaceae	nidraganneru

5	<i>Pongamia pinnata</i>	Fabaceae	pongamia/kanuga
6	<i>Terminalia catappa</i>	Combretaceae	badam
7	<i>Syzygium cumini</i>	Myrtaceae	jamun/allaneredu
8	<i>Cocos nucifera</i>	Palmae	coconut/kobbari
9	<i>Mangifera indica</i>	Anacardiaceae	mango/mamidi
10	<i>Polyalthia longifolia</i>	Annonaceae	naramamidi
11	<i>Psidium guajava</i>	Myrtaceae	jama
12	<i>Phyllanthus emblica</i>	Euphorbiaceae	gooseberry/usiri
13	<i>Syzygium jambolarum</i>	Myrtaceae	Jamun/water jamun
14	<i>Leucaena leucocephala</i>	Fabaceae	subabul
15	<i>Bamboo sp.</i>	Poaceae	bamboo/veduru
16	<i>Manilkara zapota</i>	Sapotaceae	sapota
17	<i>Spathodia campanulata</i>	Bignoniaceae	tuliptree
18	<i>Anthocephalous chinensis</i>	Rubiaceae	kadamba
19	<i>Artabotrys hexapetalus</i>	Annonaceae	teegasampenga
20	<i>Grevillea robusta</i>	Proteaceae	silver oak tree
21	<i>Casuarina equisetifolia</i>	Casuarinaceae	casuarinas/sarugudu
22	<i>Terminalia arjuna</i>	Combretaceae	arjun/maddi
23	<i>Pterocarpus santalinus</i>	Cesalpiniaceae	redsander/errachandanam
24	<i>Samanea saman</i>	Fabaceae	Raintree
25	<i>Tectona grandis</i>	Verbinaceae	Teak

Medicinal Plants

S.No	Scientific name	Family	Local Name
1	<i>Aloe vera</i>	Asphodenaceae (Liliaceae)	kalabanda
2	<i>Phyllanthus emblica</i>	Euphorbiaceae	usiri
3	<i>Tinospora cordifolia</i>	Menispermaceae	thippateega
4	<i>Aristolochia indica</i>	Aristolochiaceae	gadidhagadapa
5	<i>Vitex negundo</i>	Lamiaceae	vavili
5	<i>Jatropha gossypifolia</i>	Euphorbiaceae	biodiesel plant/adavi amudam
6	<i>Crotalaria retusa</i>	Fabaceae	crotalaria

7	<i>Ocimum tenuiflorum</i>	Lamiaceae	basil/tulasi
8	<i>Lawsonia inermis</i>	Lythraceae	gorintaku
9	<i>Murraya koenigii</i>	Rutaceae	curry leaf/karivepa
10	<i>Bryophyllum pinnatum</i>	Crassulaceae	bryophyllum/ranapala
12	<i>Gynema sylvestre</i>	Apocyanaceae	podapatri
13	<i>Calotropis gigantea</i>	Asclpiadaceae	jilledu
14	<i>Euphorbia pulcherrima</i>	Euphorbiaceae	poinsettia
15	<i>Coleus aromaticus</i>	Lamiaceae	coleus
16	<i>Asparagus recemosus</i>	Lilioaceaea	shathavari
17	<i>Mimosa pudica</i>	Mimosaceae	Touch me not plant/atti patti
18	<i>Sauropus andragynum</i>	Phyllanthaceae	
19	<i>Catharanthus roseus(vinca)</i>	Apocyanaceae	vinca/bilaganneru
20	<i>Ficus carica</i>	Moraceae	anjeera
21	<i>Chamaecostus cuspidatus</i>	Costaceae	Costus
22	<i>Bixa orellana</i>	Bixaceae	Bixa/sindhuram
23	<i>Cymbopogon citratus</i>	Poaceae	Lemon grass
24	<i>Mimosa pudica</i>	Mimosaceae	Touch me not plant

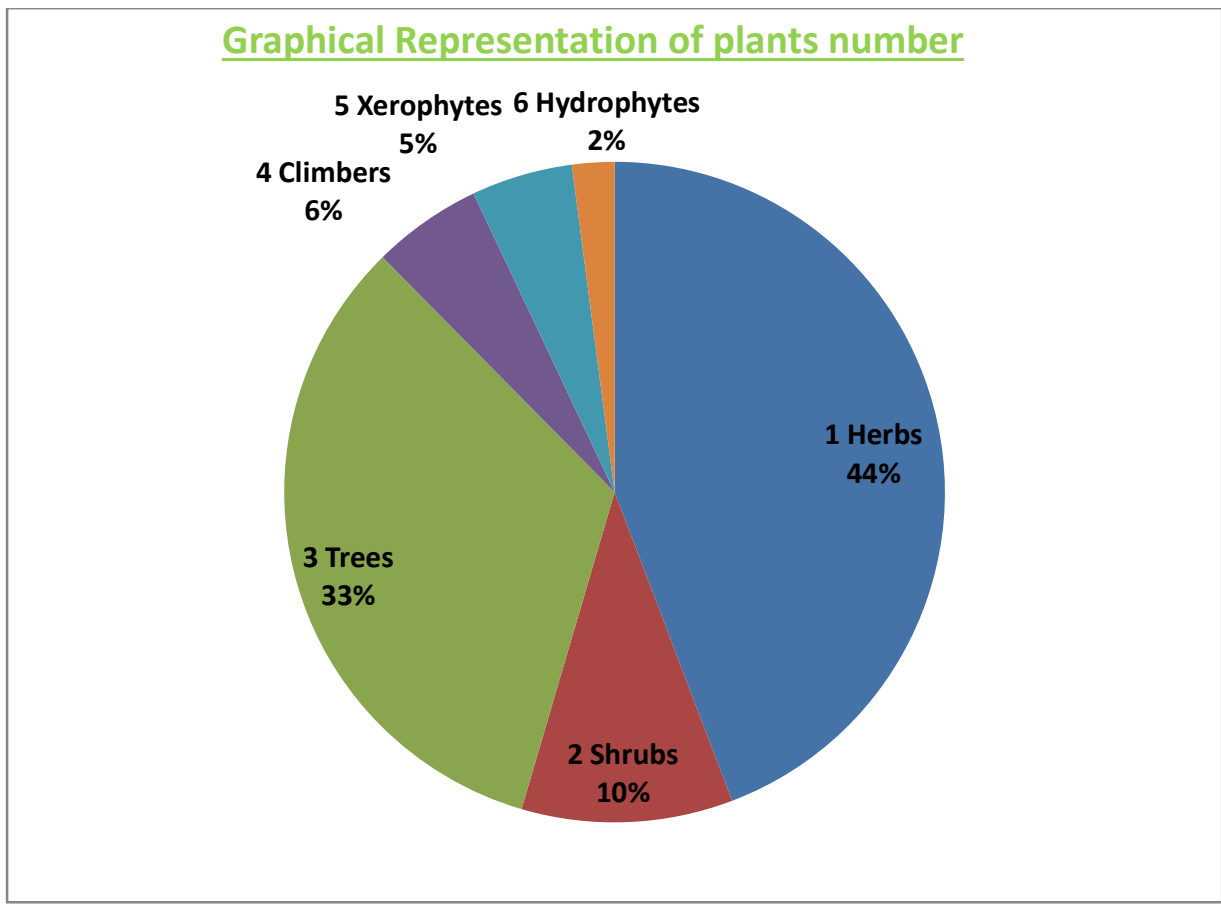
QUANTITATIVE DATA

The campus is home to more than 242 plants including a variety of endemic plants, which representing a high spatial heterogeneity of green spaces

Sl.No	Habit/Habitat	Number	Remarks
1	Herbs	107	Including ornamentals, medicinal plants
2	Shrubs	25	
3	Trees	80	

4	Climbers	13	
5	Xerophytes	12	
6	Hydrophytes	05	

*** Including endemic species- *Pterocarpus santalinus* (red sanders) etc.**



MEDICINAL PLANTS

There are more than 37 plant species documented as possessing great medicinal value. Few of them are

1. *Cymbopogon citratus* (nimmagaddi)



Uses:

Perfume

Extraction of oil (Lemon grass oil)

Mosquito repellent

2. *Bixa orellana* (bixa) Uses:



Uses:

➤ Anti-pyritic

➤ Anti diarrial

➤ Insect repellent

➤ Anti diabetic

3. TIPPATEEGA- *Tinospora cordifolia*



Uses:

- Immune booster
- Anti arthritis
- Peptic ulcer
- Anti diabetic
- Rejuvenator

4.VAAVILI- *Vitex negundo*



Uses:

- Muscular pain
- Skin diseases
- Obesity

- Earpain
- Rheumatism

5. Gooseberry- *Phyllanthus emblica*



Uses:

- Antioxidants.
- Ayurvedic medicine- Vit C
- Comestics.
- Effective anticoagulant and anti-inflammatory agent.

6. Vinca: *Catharanthus roseus*



Uses:

- Diabetes
- Cancer
- Sore throat cough

QR CODES FOR IDENTIFICATION



New technique has been introduced to identify the plants in the college campus ie; QR code system (Quick Response)

Scientific Name:

Family:

Local Name:

Habit and Habitat:

Uses:

Importance:

- Flora of particular area is utmost important
- Flora (plants) of particular area recreate the quality of air we breath, the water we drink, the soil that produce our food.
- Support the faunal diversity
- practical knowledge for the students
- Meet the ecological needs
- Sacred plants help to connect the people to nature
- Human physical and Psychological wellbeing.
- Aesthetic value

- Beautification

Threats to Urban Flora:

By the year 2050, 68% of the global human population would live in urban areas, constantly growing in surface, which increase the pressure on local flora.

1. Developmental activities
2. Anthropogenic Pressure
3. Removal of shoots, branches by electricity departments
4. Urban planning
5. Infestation
6. Biotic Pressure-Cattle grazing

Future Plants

- Improve the greenery with native flora.
- Propagate the medicinal plants in the garden via;
- Creating awareness to the student.
- Afforestation.
- Protection of native plants by campaign.
- Introduce more number of endemic, rare plants.
- Introduce sacred plants.
- Introduce medicinal plants.
- Preparation of digital herbarium