

### **Trees in LaCONES campus**

CCMB's Laboratory for the Conservation of Endangered Species (LaCONES) campus comes under 'Deccan Plateau' phytogeographic zone, situated in Hyderabad, state capital of Telangana. LaCONES was established in 2007, with the aim of promoting biotechnological applications in both *in situ* and *ex-situ* conservation. The 7.5 acre campus located in Attapur has been carefully built to house a state-of-art laboratory and preserving the natural rocks and land form. In recognition of this, in 2013, the campus was recognized by Indian National Trust for Art and Cultural Heritage (INTACH) as a Heritage Open Space for "*respecting and restoring nature and its biodiversity... and the exceptional sensitivity shown in protecting a part of the famed 'rockscape' of Hyderabad*"

The LaCONES campus is therefore, endowed with rich floral diversity. The campus is home to epiphytes, lianas, climbers, grasses, herbs, shrubs and trees. Trees play a crucial role in the maintenance of ecosystems. Large trees count among the most dominant life forms on Earth. They are keystone structures in urban areas, playing unique ecological roles. Undoubtedly, populations of trees have direct implications for ecosystem integrity and biodiversity. They have the ability to absorb water and mineral salts from the earth and transport them to the leaves. By means of photosynthesis, the leaves combine water with carbon dioxide from the air, with the help of mineral salts, to produce food reserves for the tree. These reserves are largely invested in the tree structural components, flowers, fruits and seeds that support diverse fauna and have a direct economic value to humans. Among the ecosystem functions of trees, particularly deciduous, seasonal leaf fall brings the majority of soil nutrients to the surface of the soil. Trees hold soil and prevent erosion, bring down the surrounding temperatures and recharge ground water. Above all the single most important function of trees is their ability to fix carbon and store in the form of woody biomass for prolonged periods of time. For example: A neem tree that is 10 m tall with 10 cm diameter may store about 136 Kg of carbon. It is needless to say the important role trees play to support a myriad of other life forms in the campus.

An inventory of trees (of > 10 cm circumference at 1.3 m height) in LaCONES campus was made. For this, the campus was divided into 9 main sectors (see Figure). The trees were identified with the help of floral keys, following Bentham and Hooker system of classification, and their numbers were enumerated by total count of trees.

LaCONES campus has 354 trees comprising of 49 species that belong to 45 genera and 22 families (see Table). The sector IV (see Figure) has the maximum number of species with 19 species representing 12 families. There are 227 native trees and 127 exotics in the property. Out of 49 of tree species, 28 of them are of Indian origin while 21 species are exotic. The high count of native trees is due to a single dominant species, *Azadirachta indica* - neem, belonging to Family Meliaceae. It is also the most abundant tree species in the campus, and is represented in all sectors, except sector VII. In tune with the philosophy behind the design of the campus, and to uphold the status of promoting nature and biodiversity, the campus would strive to phase out exotic flora, and promote regional native species.

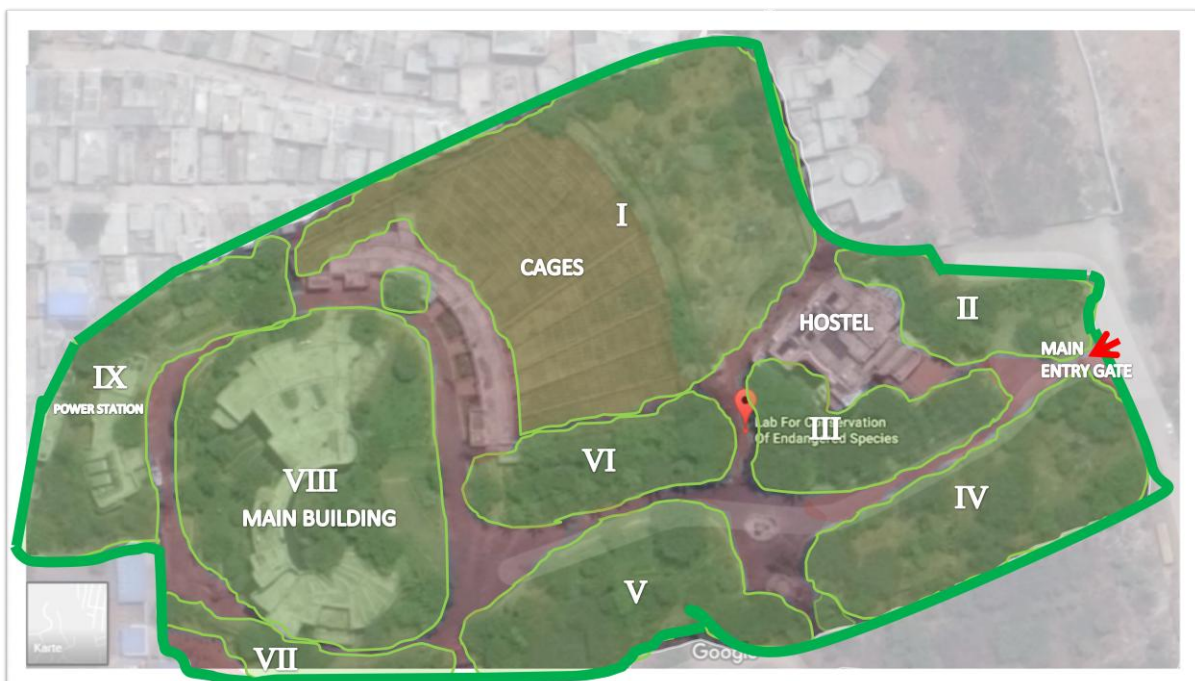


Figure: LaCONES campus with sectors identified

### Distribution and abundance of Trees in the LaCONES campus.

Sl. no.	Family	Genus	Species	Common name	Nativity	Abundance										Total
						—	=	≡	≥	>	≤	≦	≧	≨	≩	
1.	Anacardiaceae	<i>Mangifera</i>	<i>indica</i>	Aam	Native	-	-	1	2	-	-	-	-	-	3	
2.	Annonaceae	<i>Annona</i>	<i>squamosa</i>	Sitaphal	Exotic	-	-	-	1	-	-	-	-	-	1	
3.		<i>Polyalthia</i>	<i>longifolia</i>	False Ashoka tree	Native	-	-	-	3	-	-	-	-	-	3	
4.	Apocynaceae	<i>Alstonia</i>	<i>scholaris</i>	Satwin	Native	-	-	2	-	6	1	-	-	-	9	
5.		<i>Wrightia</i>	<i>tinctoria</i>	Doodhi	Native	2	-	-	-	-	-	-	1	-	3	
6.	Arecaceae	<i>Areca</i>	<i>catechu</i>	Supari	Exotic	-	-	-	-	-	-	-	1	-	1	
7.		<i>Bismarckia</i>	<i>nobilis</i>	Bismarck palm	Exotic	-	-	-	-	-	-	-	1	-	1	
8.		<i>Caryota</i>	<i>urens</i>	Fishtail palm	Native	-	1	-	-	-	-	-	-	-	1	
9.		<i>Cocos</i>	<i>nucifera</i>	Nariyal	Exotic	-	4	-	-	1	-	-	3	-	8	
10.		<i>Phoenix</i>	<i>rupicola</i>	Cliff date palm	Native	-	-	-	-	-	-	-	-	1	1	
11.			<i>sylvestris</i>	Khajoor	Native	-	-	-	-	1	-	-	1	1	3	
12.		<i>Roystonea</i>	<i>regia</i>	Bottle palm	Exotic	-	-	4	4	-	8	-	-	-	16	
13.		<i>Sabal</i>	<i>minor</i>	Dwarf palmetto	Exotic	-	-	-	-	-	-	-	1	-	1	
14.	Bignoniaceae	<i>Spathodea</i>	<i>campanulata</i>	African tulip	Exotic	3	-	5	3	2	-	-	1	6	20	
15.		<i>Tabebuia</i>	<i>aurea</i>	Golden-yellow trumpet	Exotic	-	-	-	2	-	-	1	-	-	3	
16.		<i>Tecoma</i>	<i>castanifolia</i>	Chandraprabha	Exotic	-	1	1	-	-	-	-	-	5	7	
17.	Boraginaceae	<i>Cordia</i>	<i>sebestena</i>	Scarlet cordia	Exotic	-	-	-	-	-	-	1	-	-	1	
18.	Caesalpiniaceae	<i>Bauhinia</i>	<i>blakeana</i>	Honk-Kong orchid	Exotic	-	-	-	-	-	-	-	1	-	1	
19.			<i>variegata</i>	Kachnar	Native	5	-	-	-	3	-	2	-	-	10	
20.		<i>Cassia</i>	<i>fistula</i>	Amaltas	Native	-	-	-	-	1	-	-	-	-	1	
21.		<i>Delonix</i>	<i>regia</i>	Gulmohar	Exotic	2	-	-	2	4	-	2	-	5	15	
22.		<i>Peltophorum</i>	<i>pterocarpum</i>	Copper pod	Exotic	-	3	7	-	1	-	-	-	1	12	
23.		<i>Senna</i>	<i>siamea</i>	Yellow senna	Native	2	-	1	5	-	-	1	-	-	9	
24.		<i>Tamarindus</i>	<i>indica</i>	Imli	Exotic	2	-	1	2	-	-	-	-	-	5	
25.	Combretaceae	<i>Terminalia</i>	<i>catappa</i>	Badam	Exotic	1	-	-	-	-	-	-	-	-	1	
26.	Euphorbiaceae	<i>Putranjiva</i>	<i>roxburghii</i>	Putranjeeva	Native	-	-	-	-	-	-	-	-	3	3	
27.	Lamiaceae	<i>Tectona</i>	<i>grandis</i>	Sagon	Native	-	-	-	-	-	4	1	1	-	6	
28.	Malvaceae	<i>Thespesia</i>	<i>populneoides</i>	India tulip	Native	-	-	-	-	-	-	1	-	-	1	
29.		<i>Bombax</i>	<i>ceiba</i>	Seemar	Native	-	-	-	2	2	-	1	-	2	7	
30.		<i>Sterculia</i>	<i>foetida</i>	Janglibadam	Native	1	-	-	1	-	-	1	-	-	3	
31.	Meliaceae	<i>Azadirachta</i>	<i>indica</i>	Neem	Native	21	2	2	15	12	11	-	22	4	89	
32.		<i>Swietenia</i>	<i>macrophylla</i>	Mahagoni	Exotic	-	-	3		2	-	-	-	4	9	
33.	Mimosaceae	<i>Acacia</i>	<i>leucophloea</i>	Reonjha	Native	3	-	-	1	-	1	-	-	-	5	
34.		<i>Albizia</i>	<i>lebbeck</i>	Shirish	Native	5	4	-	-	1	1	1	-	1	13	
35.		<i>Parkia</i>	<i>biglandulosa</i>	Chenduphal	Exotic	-	2	2	1	-	-	-	-	7	12	
36.		<i>Pithecellobium</i>	<i>dulce</i>	Vilayati chinch	Exotic	-	-	-	-	-	-	-	-	1	1	
37.	Moraceae	<i>Ficus</i>	<i>benghalensis</i>	Bargad	Native	3	-	-	-	1	6	-	-	-	10	
38.			<i>elastica</i>	Indian rubber	Native	-	-	-	-	-	-	-	-	-	2	2

39.			<i>religiosa</i>	Peepal	Native	-	-	-	-	-	-	-	2	1	3
40.	Moringaceae	<i>Moringa</i>	<i>oleifera</i>	Soajna	Native	3	-	3	-	1	-	-	-	-	7
41.	Myrtaceae	<i>Eucalyptus</i>	<i>tereticornis</i>	Nilgiri	Exotic	-	-	1	2	-	-	-	-	-	3
42.		<i>Syzygium</i>	<i>cumini</i>	Jamun	Native	1	-	-	2	-	3	-	-	-	6
43.	Fabaceae	<i>Pongamia</i>	<i>pinnata</i>	Karanj	Native	2	-	-	1	-	5	-	-	-	8
44.	Proteaceae	<i>Grevillea</i>	<i>robusta</i>	Silver oak	Exotic	-	-	-	1	3	-	1	-	3	8
45.	Rhamnaceae	<i>Ziziphus</i>	<i>mauritiana</i>	Baer	Native		3	-		-	-	-	3	-	6
46.	Rutaceae	<i>Aegle</i>	<i>marmelos</i>	Bael	Native	2	-	-	-	-	4	-	-	-	6
47.		<i>Murraya</i>	<i>koenigii</i>	Kadipatta	Native	-	-	-	-	-	1	-	-	-	1
48.	Sapotaceae	<i>Manilkara</i>	<i>zapota</i>	Chikoo	Exotic	-	-	-	1	-	-	-	-	-	1
49.	Ulmaceae	<i>Holoptelea</i>	<i>integrifolia</i>	Karanji	Native	2	-	-	-	1	2	-	1	2	8
Total	Family - 22	Genera - 45	Species -49		Native - 28 Exotic - 21	60	20	33	51	42	47	13	39	49	354

By: Snehalatha Vadigi, Amit Kumar and Karthikeyan Vasudevan

Contact: vsneha@ccmb.res.in