

Lives within JNPA

Grassroots Research and Consultancy
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Picture Credit: Sachin Waghmare



PREFACE



This book was an initiative taken up by Grassroots and the K.C. College of Life Sciences to make the reader understand the rich bio-diversity that resides in the JNPA. The book talks about varied flora and fauna with interesting facts and stories and amazing photo shots on site.

Thank you to JNPA for sponsoring this booklet.



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ABOUT JNPA

Jawaharlal Nehru Port Authority (JNPA) or JLN Port, also known as Nhava Sheva Port, is the second largest container port in India.

It is in Raigad district, Navi Mumbai.

JNPA is a nodal city in Navi Mumbai.

This port is on the Arabian Sea and can be accessed via Thane Creek.

Its common name is derived from the Nhava and Sheva villages that are situated here.

This port is also the terminal of the Western Dedicated Freight Corridor.







Century old temple, village deity of Sheva. Villagers from Sheva were relocated when port was planned at the site.

However their temple still is at the original location. The temple is in active worship and hundreds of devotees visit the temple on day of Mahashivratri.

Temple is flanked by three connected water bodies. Surrounded by thickets of bamboo. Hosting many species of birds and butterflies.

The temple is flanked by three connected waterbodies and is surrounded by thicket of Bamboo and other vegetation that hosts many species of birds and butterflies.

Water quality is questionable, as no source of human pollutants was found around like sewerage lines or garbage bins. But still, the quality of water was lower than expected. The Sheva temple is famous for the festival of Mahashivratri. Every monday of the month of Shravan, the site experienced a maximum footfall.







DEVI TEMPLE

Once the land of eight villages was converted into what is now known as the JNPA or Nava Sheva Port. Its shore is accessible via Thane Creek. Prior to 1989, the villagers had established their worship sites among the dense vegetation.

While the port was being built, such sentimental areas were left untouched; however, as the temples deteriorate, JNPA is working to maintain and preserve the structure.

Locals relate to the Devi temple as Aai Shanteshwari Mandir. The temple is adjacent to the Sheva Temple.

This same Devi temple attracts a large number of devotees, particularly throughout Navaratri





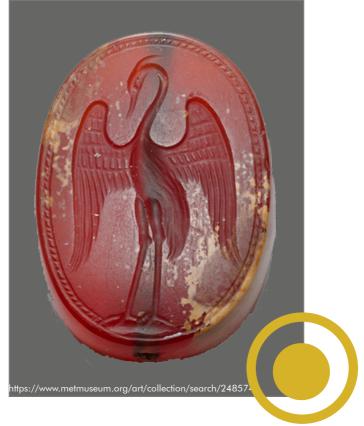




Grey Heron: Adrea Cinerea Linn IUCN Status: LC

राखाडी बगळा

- Belongs to family Ardeidae
- Grey plumage covering their wings, dorsum, and most of the neck. The underparts are white, and the bill is yellow.
- The head is white with long black feathers that extend from the eyes to the beginning of the neck, forming a large, impressive crest.
- This species exhibits a distinct arched wing when flying and keeps the neck retracted.
- Their diet includes lots of fish, but also small birds such as ducklings, small mammals like voles, and amphibians.
- After harvesting, Grey herons can sometimes be seen in fields, looking for rodents.
- Prominently found near Central parking plaza lake.



Folklore

The Greeks believed the heron was a messenger from the gods. The heron was thought to have been sent by Athena and Aphrodite, the goddesses of wisdom and love. Athena, for example, once sent a heron to Odysseus during his odyssey as a sign that she was watching him. Celtic mythology had herons as messengers of the gods as well and thought the herons were imbued with superior intelligence. The symbolism of the heron varies by culture. It represents strength, purity, and long life in China. In Native American tradition, the heron symbolises wisdom and good judgment. In ancient Egypt the heron was a symbol of creation, while in Africa and Greece the heron was a messenger of the gods.

Information source: https://tomhuttonmd.com/2017/01/15/heron-folklore/ Opposite Page: Carnelian scaraboidca. 450–430 B.C.



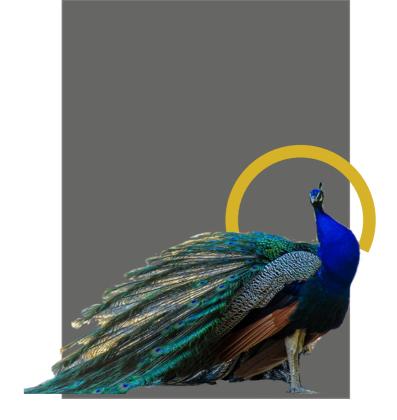
Rufous Backed Shrike: Lanius schach रुफस बॅक्ड श्रीक

- The rufous backed shrike is a member of the bird family Laniide,
 The shrikes.
- Widely found across the Asian continent.
- Their long, narrow black tail, black mask and forehead, rufuos rump and flanks, and white patches on their shoulders make them more recognisably coloured than the rest of the family.
- They have screeching calls and also mimics other birds.
- Prominently found near Sheva temple, JNPA.



Purple Rumped Sun Bird Leptocoma zeylonica Linn IUCN Status: LC जांभळ्या पुठ्ठ्याचा शिंजीर

- Family: Nectariniidae
- Active, acrobatic forager among flowers and foliage
- Often seen hopping and hovering around flowers, picking up insects, and probing flowers for nectar
- The male has a green metallic crown and shoulder patch, a dark brown body with purple a rump, a purple throat, lemon-yellow underparts, and whitish flanks
- Juvenile similar to female, but underparts entirely yellow.
- Prominently found near Central parking plaza Lake.



Peacock : Pavo cristatus

मोर

- Peacocks are actually the males of the species, also known as peafowl.
- The colorful plumage on the peacock's tail is not actually feathers, but elongated, colorful coverts.
- They use their colorful tails to attract mates during breeding season.
- Peacocks are omnivores, they eat vegetable, smalled insects and animals.
- Peacocks are considered sacred in Hinduism and are often featured in religious art and mythology.
- https://worldanimalfoundation.org/advocate/farm-animals/ params/post/1278208/peacocks



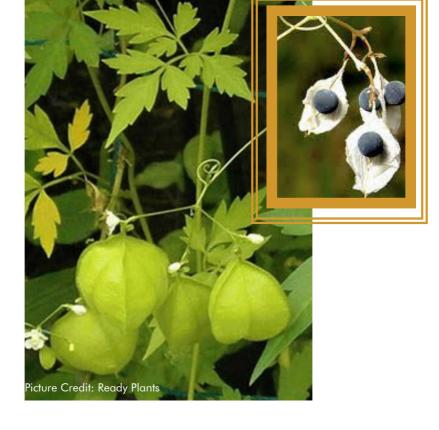
Story of A Brahminy Kite समुद्री घार

- Brahminy kite, Haliastur indus, the Latin name can be broken down into, halia meaning salt, astur meaning literally a hawk, and indus meaning originating from India.
- In Hindu mythology, there's a resemblance between Garuda and the Brahminy kite. Vishnu's vahana is a garuda, and the garuda is supposedly the progenitor or parent of all birds of prey in the Vedas. In adults, the birds have a reddish-brown body plumage that contrasts with their white head and breast, which makes them easy to distinguish from other birds of prey. They are kleptoparasitic. Klepto, quite literally, means one who steals compulsively, parasitic means someone else's food or nutrition. So, these big birds of prey actually steal other smaller birds' food. According to the book, Birds in Sanskrit Literature, by KN Dave, there's a story about the brahminy kite with Parvati and Shiva that goes as follows: Shiva was enjoying the company of beauties, other than his wife, when Parvati took the form of a brahminy kite and shooed them away.
- Prominently found near Central parking plaza Lake.





Picture Credit: Sachin Waghmare



Balloon Vine: Cardiospermum halicacabum *कानफुटी*

- Ballon-vine is a perennial creeper; at its base, the plant's stem is only approximately 3 mm thick, but it can reach a height of up to 2 meters.
- The tiny radiate flowers are white, standing in rolls on long flower stems of 5 to 110 cm in length.
- It has a fruit roughly 3 cm long, blown almost into a spherical capsule containing a seed with heart shaped white markings.
- Indigenous to the Bermudas, Florida, and Texas. But it is now found extensively in India, Africa, and South America, and is regarded as a rampaging weed.
- It mostly found near roadsides, disturbed sites, and plantations
- Information source: avogel.com/plant-encyclopaedia/cardiospermum_ halicacabum.php



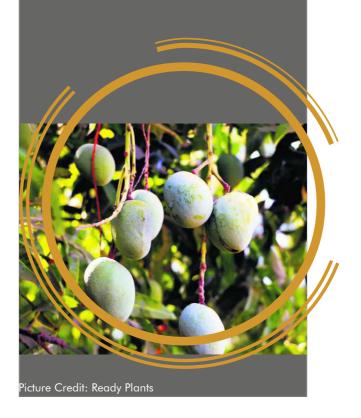
Navali Merremia vitifolia नवल

- A plant belonging to family, Convulvulaceae; Merremia vitifolia is perennial, climbing plant with twining 2 5 metre long stems.
- Commonly known as Bombay Nawal or Navali (Marathi)
- Abundantly sprawled across the vegetation hosting a number of butterflies
- The juice of the plant
- Cooling and diuretic
- Treatment for high fever
- To ease inflamed eyes.
- Stem is used to treat Malaria and smallpox.
- Mostly found on the roadside.



Red mangroves Rhizophora mangle खारफुटी

- Mangroves are salt- tolerant trees and shrubs that grow in coastal areas, often in the inter tidal zones between land and sea.
- They play an important role in protecting the coastlines from erosion and providing habitat for a variety of marine and terrestrial species.
- Protects water quality and reduces chances of coastal flood.
- They are currently facing many threats, such as pollution, reclamation of land and illegal activities.
 - Reference: https://floridadep.gov/sites/default/files/benefits-of-mangroves-2-8-16.pdf



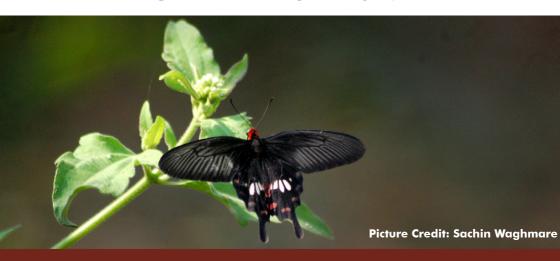
Mango Mangifera indica आं बा

- Also known as Amba by the local.
- Medium to large size evergreen tree, growing upto 40m tall with a heavy dome shaped crown, with orange yellow when young, shining green.
- Flowers densely clustered in terminal. January to March are the flowering season whereas, April to June is Fruiting.
- Each mango has its rich, delicious and unique sweetness.
- Ripe fruits are preserved by canning or use in the manufacture of juice and squash, jams, jellies, candies.
- Its timber is also used for making furniture, window frames, tea chests, packing boxes and match boxes.





BUTTERFLIES AT JNPA





Striped Tiger: Danaus genutia Cramer स्ट्रीप्ट टायगर

- Belonging to the family Nymphalidae
- It is a dark orange butterfly with distinct black lines along the veins on both surfaces of both wings.
- The apex of the fore wing is black in colour up to the cell, and extends along the upper and outer margin, on the upper surface.
- Caterpillars of striped Tiger were observed to feed on leaves of the host plant Calotropis gigantea (Rui)
- The eggs of the Common Tiger are laid singly on the leaf of the host plant, typically on the underside. The milky white egg is shaped somewhat like a truncated rugby ball.
- Prominently found in all around JNPA.







ANIMALS AT JNPA

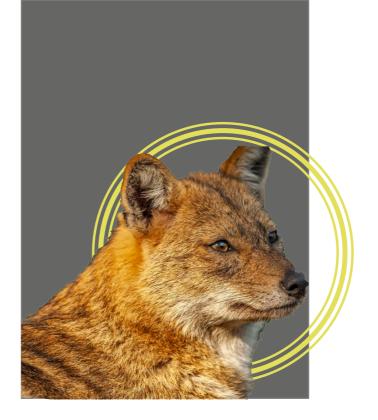




Mongoose indian grey Urvaedwardsii

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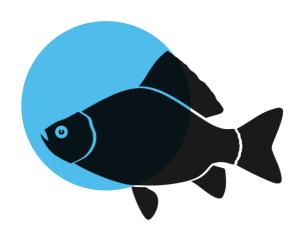
- Indian grey Mangoose are the native to Indian subcontinent.
- A red list IUCN
- Inhabitants of forest, scrub-lands and cultivated fields, often close to human habitants
- Short legged animals with pointed nose, small ears and furry tails
- Feeding on small prey such as reptiles and birds and have combat power
- They are gizzled grey in colour with a paler underside.
- They are commonly found near Air Force Area.



Indian Jackal Canis aureus indicus कोल्हा

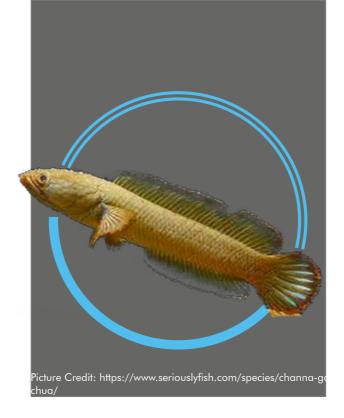
- Canis aureus indicus is the other name for the Indian Wild Dog or Dhole.
- The dhole is a species of canid native to the Southeast Asia, hunting abilities in pack.
- They are listed as endangered by the IUCN due to habitat lost and poaching.
- Jackal are scavengers in their home range.
- They consume garbage and carrion around the village and town.
- They benefits agriculture, feeding upin rodents and lagomorphs.





MARINE LIFE AT JNPA



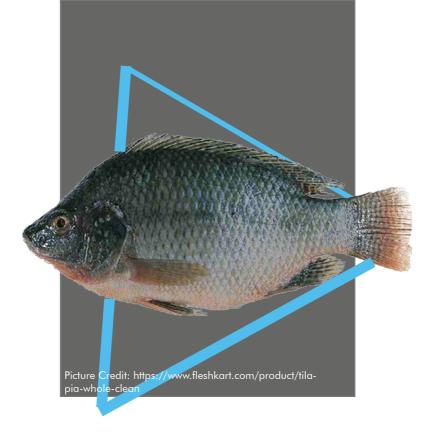


Dhok or Daku : Channa Gachua डाक्

SIG

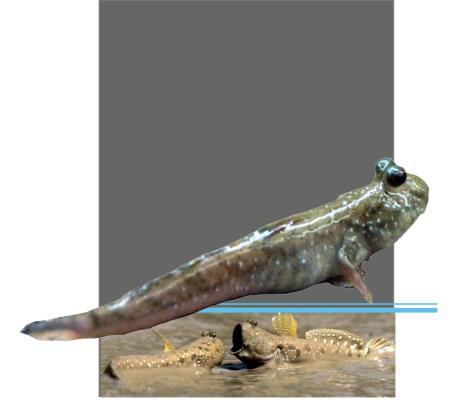
- Daku, is known as the dwarf snake head, is a species of freshwater fish native to India, Bangladesh and Pakistan,
- It is a popular aquarium fish due to its small size and peaceful nature.
- Channa have an elongated body and are distinguished by their long dorsal fins large mouth full of teeth. They have gills to breathe just like most of the fish.
- It can survive for a period of time out of water, and can move short distances over land to new bodies of water.
- Can survive in wide range of water conditions.
- https://aquainfo.org/channa-gachua-brown-dwarf-snakehead/





Tilapia Fish : Oreochromis niloticus नविटी कवा नविटा

- Tilapia is typically a small to medium sized fish, with a maximum length of about a feet.
- Tilapia inhabiting shallow streams, ponds, rivers and lakes, and is less commonly found in brackish water.
- Mainly a herbivores that eating plankton, algae and other vegetable matter.
- Tilapia is a fast growing fish and can reach maturity in as little as 6 months.
- https://www.balisafarimarinepark.com/the-tilapia-fishcharacteristics-habitat-and-more/



Mudskipper : Oxudercinae मडस्कीपर

- Being an aquatic being it can climb trees, hitched rides on snails, and rolls around in the mud.
- Large googly eyes that protrudes from the head and a pair of pectrol fins that works like front legs help them to adapt amphibious lifestyle.
- Their burrows helps them to hide from predators at high tides.
- Mudskippers are found in the inter tidal zones of tropical and subtropical regions throughout the world.
- In JNPA, one can find them near the mangrove edges.
- https://roundglasssustain.com/species/mudskipper





Fiddler Crabs : Uca उका

- Fiddler crabs are small, semi terrestrial crabs are characterized by cheliped asymmetry in males.
- Fiddler crab carapace length is about 1 to 2 inches
- Males crab have one large claw and one small claw
- They are inter tidal animals that live in mangroves forests, tidal creeks, mudflats and occasionally on stone or boulders.
- Fiddlers are very active during low tides.
- https://biology-assets.anu.edu.au/hosted_sites/backwell3/ FiddlerCrabs.html

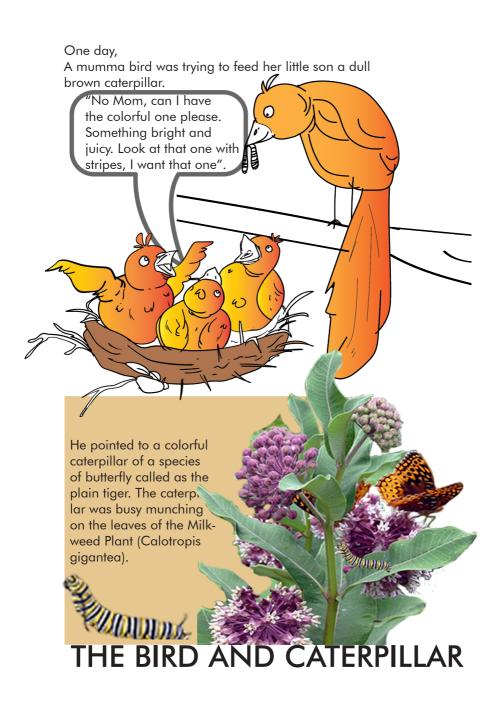


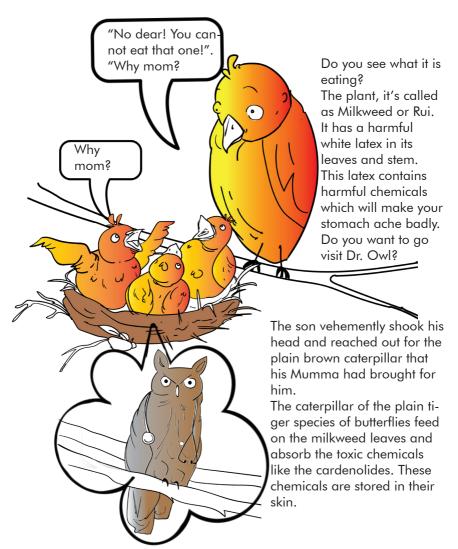




STORY TIME

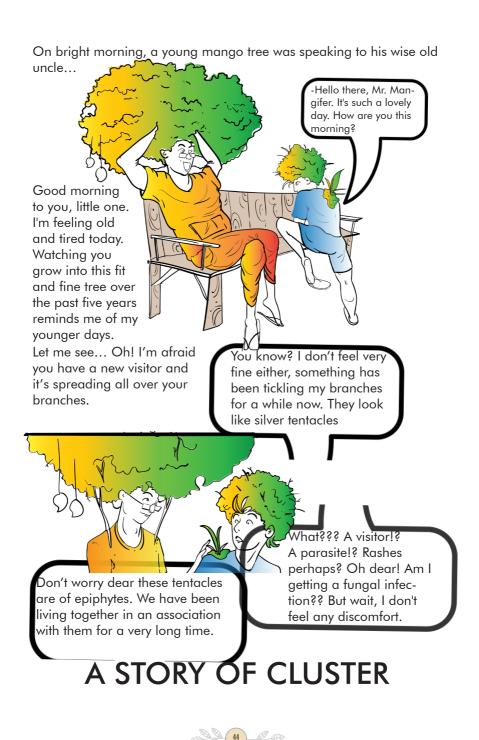






When the bird eats such a caterpillar, it feels gut wrenching pain and hence learns a lesson for life and never eats this caterpillar again. This is an experiential learning example seen in birds. This defense mechanism by the caterpillar is called as Aposematism.

The female of the Daniad Eggfly butterfly is smarter. It does not feed on milkweed but it taken on the colors which are similar to the plain tiger caterpillar and makes a fool of the other birds. This strategy of mimicking someone in nature is called 'Batesian mimicry'







Epiphytes? What are those? Oh no! I can see some spongy, velvety, green patches on my trunk. Will I have to be quarantined now?

Mr. Mangifer: Calm down little one, allow me to explain you this phase of life. Firstly, this harmless tingling interaction with epiphytes is called commensalism. These plants are beautiful flowering orchid of Vanda. Look here, these are mine. Little Manga - They are so pretty. But... but... what about these spongy things growing on me. Little Manga - They are so pretty. But... but... what about these spongy things growing on me.

Mr. Mangifer - Being a mango tree you become home to several species around you. The spongy things are mosses and lichens. They are shade loving and find shelter on your trunk just as the birds build their nest on your branches. These lichens are a very good indicator for air pollution around you.

Little Manga - I'm in awe. Thank you, Mr. Mangifer. I really am very happy knowing that I can be a home to these green guests. Is there something I need to be careful about? Mr. Mangifer - Yes of course, there is! A very dangerous intruder you must never forget are the parasites.

Little Manga - That is so scary!! What do these parasites do? Can we be treated?

Mr. Mangifer - It is a very critical situation because these parasites try to take away all our nutrition, making us sick and weak. But fret not the gardeners here have a magic potion to keep us safe. "Pesticides," I think they're called.

Little Manga - That's such a relief to know. I'm grateful to be here at JNPT because they try their best to keep me healthy

Mr. Mangifer – Yes truly. Look it's beginning to drizzle. Let's enjoy the rains and welcome more of such new plant friends.

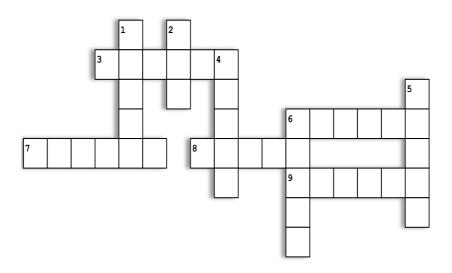








CROSSWORD



Across

- 3. Commonly used as an oral and dental hygiene product
- 6. Rich in Vitamin C and is used to make ketchup
- 7. Caterpillars encase themselves in this before turning into butterflies
- 8. This plant is considered sacred and is also called "Holy Basil" 9. Dried form of this are called raisins

Down

- 1. King of fruits
- 2. Peas are found in it
- 4. National flower of India
- 5. Lord Ganesha's Vaahan
- 6. National animal of India



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We would like to acknowledge the kind assistance and the invaluable inputs we received from the team of K.C, College, HSNC University, Mumbai.

Control of the last	ir. 10	PLANT	COMMON NAME
1		SITE-01SHEVA TEMPLE	
1		Operculinaturpetum (I.) S. Manso	Silave Manso
2	2.	Vernonia Cinerea L.	Little Ironweed
3	3.	Merremia Vitfolia (Burm f.) Hallier f.	Grape Glory or Bombau Nawal
4	l.	Salmalia , alabarica (DC.) Scott & Endl.	Indian Silk Cotton Tree
5).	Gliricidia Sepium (Jacq.) Walp	Quickstick
6	ò.	Acacia Auriculiformis A. Cunn. exBenth	Earleaf Acacia
7	7.	Trem a orientalis L. Blume	Pigeon wood
8	3.	Sidarohom bifolia	Arrow Leaf sida
9	·.	Pluchea indica(L.) Less	Indian camphorweed
1	0.	Chromolaena odorata(L.) R.M. King and H. Rob	Siam weed
1	1.	Ziziphusmauritiana Lam	Bore
1	2.	Pithecellobium dulce(Roxb.). Benth	Jungle jalebi
1	3.	Ficus carica L.	Edible fig
1	4.	Azadirachta indica L.	Neem
1	5.	Commelina erecta L.	Blue Commelina
1	6.	Holarrhena antidysenterica (L.) Wall. ex A. DC.	Kutaja
1	7.	Passiflora foetida L.	Stinking passion flower
1	8.	Samenea saman (Jacq). Merr.	Rain tree
1	9.	Abrusprecatorius L.	Rabbit eye, Rosary pea
2	20.	Bridelia retusa (L.)A Juss	SpinousKino Tree/Kaji
2	21.	Cardiospermum halicacabum L.	Balloon Vine
2	22.	Bauhinia Variegata L.	Kanchan
2	23.	Alternanthera sessilis(L.) R.Br.ex.DC.	Sessile joywood

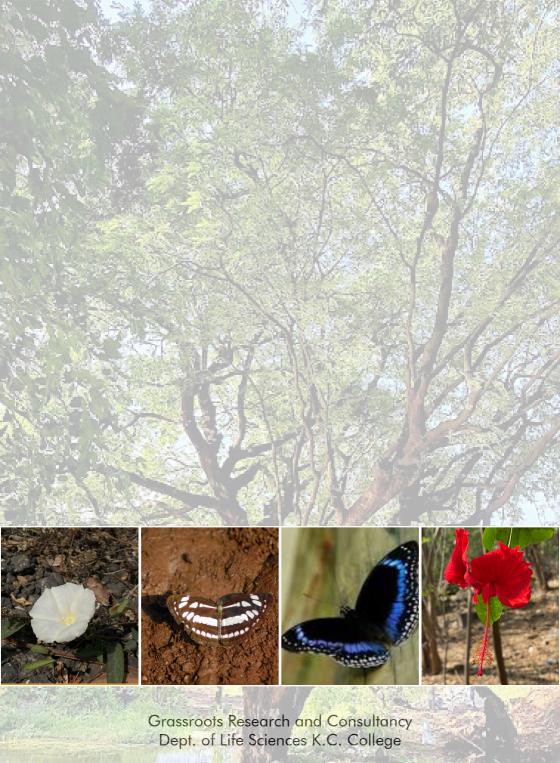
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SR. NO	PLANT	COMMON NAME
	SITE-02 CENTRAL PARKING PLAZA	
24.	Carissa spinarum L.	Conkerberry or Bush Plum
25.	Hemidesmusindicus (L.) R.Br	Anantamul
26.	Merremia Vitifolia (Burm. f.) Hallier f.	Grape glory or Bombay Nawal
27.	Chromolaena odorata(L.) R.M. King and H. Rob	Siam weed
28.	Eranthermun roseum (Vahl) R. Br.	Rosy Eranthemum
29.	Cycleapeltata Hook.f. & Thom S.	Patha, Indian Moonseed
30.	Ixora Coccinea L.	Jungle geranium
31.	Peltophorum pterocarpum(DC.) backer ex. K. Heyne	Copperpod
32.	Artocarpusheterophyllus Lam.	Jackfruit
	SITE -03	
33.	Salamalia malabarica (DC.)Scott	Indian Silk Cotton Tree
34.	Cissam pelos pareira L.	Velvet leaf
35.	Bambusa arundinacea (Retz.) Wild	Golden Bamboo
36.	Pongamia pinnata (L.) Pierre	Karanja
37.	Cassia tora L.	Takla
38.	Macrosolen capitellata (Wight & Arn.) Danser	Lahaan Bandgul
39.	Eclipta prostrata L.	Maka, Bhringraj
40.	Tinospora Cordifolia (Wild) Hook f. and thoms.	Guduchi
41.	Cassia fitsula L.	Golden Shower Tree
42.	Carica papaya L.	Papaya
43.	Mangifera indica L.	Mango
44.	Ficus benghalensis L.	Banyan
		100

	MA NO DE LA CONTRACTOR	
SR. NO.	PLANT	COMMON NAME
46.	Acalypha hispida burm .f.	Chenille Plant
47.	Ziziphus jujuba Lam.	Bor
48.	Areca catechu L.	Supari/ Betel nut
49.	Solanum americanum Mill	Common Nightshade
50.	Robinia pseudoacacia L.	Balck Locust
	monsoon visit	
51.	Bauhini perpuria	Kanchan
52.	Impatiens balsamina	Balsam
53.	Celosia argentea	Silver cock's comb
54.	Delonix regia	Gulmohar
55.	Acacia auriculiformia	Earleaf acacia
56.	Commelina communis	Asiatic dayflower
57.	Tabernaemontana divaricata	Chandani
58.	Tectona grandis	Teak
59.	Calotropis procera	
60.	Colocasia gigantea	Alu
61.	Adiatum	Maiden hair ferm
62.	Alternanthra sessilis	sessile joyweed



SR. NO	BIRDS	COMMON NAME
1.	Milvus migrans	Black Kite
2.	Ardea Cinerea	Grey Heron
3.	Egrella Gerzella	Little Egret
4.	Ardea intermedia	Median Egret
5.	Dicrurus m acrocercus	Black Drongo
S R . NO.	BUTTERFLIES	COMMON NAME
1.	Deliaseucharis Drury	Indian Jezebels
2.	Neptishylas Linnaeus	Common Sailer
3.	Danausgenutia Cramer	Striped tiger
4.	Danaus chrysippus	Plain tiger
5.	Phalantaphalantha Drury	Common leopard
6.	Jamidesceleno	Common Cerulean
7.	Zizina labradus	Grassblue
8.	Euploea core	Common crow
9.	Eurema hecabe	Common grassyellow
10.	lxias marianne	White orangetip
11.	Common Pareronia	Wanderer





Picture Credit: Sachin Waghmare

