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Tree Flora of Government Degree College for Women Wanaparthy their Taxonomy and Economic Importance

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ABSTRACT:
The current study was carried out during June 2025 to May 2026 to document tree taxa study area GDC Women, Wanaparthy Telangana in India. During survey this study documents 35 plant species (Trees) belonging to 19 families, highlighting their economic importance, ecological significance and role in promoting environmental sustainability. The study reveals a mix of native and exotic species, with dominant families including Fabaceae, Myrtaceae, Bignoniaceae, Malvaceae, Rutaceae, Meliaceae and Apocynaceae etc. Our Women students and Staff actively engage in gardening, herbal medicine practices and conservation efforts, showing their vital role in preserving local plant diversity.

Keywords: Survey, Economic, Significance, Conservation and Plant Diversity.

INTRODUCTION:

Biodiversity is the totality of genes, species and ecosystem in a region. Biodiversity interacting with the physical environment form the foundation of sustainable development. The worldwide destruction of the natural environment by population explosion, urbanization, industrialization and habitat fragmentation has led to a tremendous loss of biological diversity over the past few decades. Population pressures and concomitant unscientific and unsustainable extraction of resources especially of timber, medicinal herbs, fuel wood and fodder from forests has alarming consequences on conservation of these resources. Overexploitation is likely to severely reduce the population sizes below the critical level and consequently the survival of the species

The natural tree cover of urban areas is under tremendous pressure owing to construction activity in ever expanding cities to accommodate continuous influx of people migrating in search of livelihoods. They incline to settle down there as the cities offer them better facilities. Negative impact of this development on the wild plant resources is vividly perceivable in majority of cities. The lack of complete knowledge of the practices we adopt, the consequences thereof, the ignorance about the trees we own and their importance in the overall habitat health are obviously the reasons for the state of affairs in the cities prevailing today. This situation can be negated when plant wealth of cities in terms of species richness, the identity, composition and the silent services they render are made known. This can be pursued through documentation of tree wealth of every city including exotics is needed.

MATERIALS AND METHODS:

The study area GDC Women, Wanaparthy Telangana has 6.25 acres. Wanaparthy town situated between

16.3623º N Latitude and 78.0622º E Longitude. It is located in the southern Telangana and carved from Mahabubnagar, is bounded by Mahabubnagar to the North, Nagar Kurnool to East, Jogulamba Gadwal to the West and the state of Andhra Pradesh (Kurnool District) to the South. The climate of the study area is that January, February and March months are pleasant with moderate winds from southeast with an average temperature varies from 24˚C to 28˚C. April and May are the hottest months of the year with the mean temperature of 35˚C-45˚C. The maximum temperature during this season ranges between 45˚C and 26˚C the wind blows from western side and brings fairly good rainfall. By the end of September, the wind is light and pleasant forecasting the onset of north-east monsoon. The average rainfall of college campus is about 100cm and is mostly due to south-west monsoon.

Study Area: Government Degree College for Women, Wanaparthy.

RESULTS AND DISCUSSION:

Phoenix sylvestris (L.) Roxb. Fl. Ind., ed. 1832. 3: 787 (1832).

Deciduous trees, up to ca. 7.5-15 m high. Leaves small, up to ca. 96 cm x 4 m long, greyish green, quite glabrous, pinnately divided into numerous leaflets. Leaflets up to ca. 2.5-8 x 15-60 cm long, alternate, opposite or fascicled, lower leaf-lets modified into spines, up to ca. 12 cm long, glabrous, spiny. Inflorescence covered by a hard, boat-like bract. Female inflorescence up to ca. 90-120 cm long, rachilla up to ca. 30 cm long, spikelets numerous. Flowers rounded, green, distant. Calyx lobes 3, united at base. Sepals up to ca. 2 x 4 mm. Petals two times larger than sepals, rounded. Male inflorescence much smaller, up to ca. 12-25 cm long. Flowers sessile, white, sweet-scented, larger than female flower. Fruit drupe, up to ca.2.5 cm long, orange yellow. Seeds woody. Fl & Fr: February - April.

Economic Importance:

Economically vital for its sugary sap used to make jaggery and toddy (fermented drink), providing rural income; its fruits are edible and used for jelly; leaves make mats/brooms; stems for thatch; and various parts hold traditional medicinal value for ailments like fever, toothache, and constipation, boosting its role in agroforestry and local economies. It's also prized ornamentally for its drought resistance and majestic appearance, adding value to landscapes.

Mangifera indica L. Sp. Pl.: 200 (1753).

Deciduous trees, up to 10-20 m high. Bark brown, smooth, branchlets brown, glabrous. Leaves simple, alternate, leaf lamina oblong to oblong-lanceolate, up to ca. 3.5-6 x 12-30 cm long, base cuneate to obtuse, margin entire, undulate, apex acute to long acuminate. Inflorescence terminal paniculate, up to ca. 20-35

cm. Sepals ovate-lanceolate, up to ca. 1.5 x 2.5-3 mm, acuminate. Petals light yellow, oblong or oblong-lanceolate, up to ca. 1.5 x 3.5-4 mm, glabrous. Stamen 1, up to ca. 2.5 mm. Staminodes 4, up to ca. 0.7-1 mm. Fruit drupe oblong to sub reniform, up to ca. 3-4.5 x 5-10 cm, fleshy mesocarp bright yellow, endocarp compressed. Seeds 1. Fl & Fr: January - July.

Economic Importance:

Significant economic value globally, primarily as a major cash crop providing food, income, and export revenue through fresh fruit and processed goods (juice, pickles, etc.), while the versatile tree also yields valuable timber for furniture and plywood, dyes from bark, tannins, oils from kernels, and medicinal compounds, supporting rural livelihoods and boosting agrarian economies.

Annona squamosa L. Sp. Pl.: 537 (1753)

Deciduous trees, up to 8 m high. Bark thin. Branchlets pubescent, glabrescent. Leaves simple, leaf lamina elliptic-lanceolate, or oblong, 2-7.5 x 5-17.5 cm, base obtuse to rounded, margin entire, apex acute to obtuse. Inflorescences 1-flowered or 2-4-fasciculate. Flowers 2-3 cm, puberulent. Sepals triangular. Outer petals green to purple, oblong-lanceolate, 0.5-0.8 x 1.5-3 cm, fleshy. Stamens oblong, up to ca. 1 mm. Carpels oblong. Fruit syncarp greenish yellow, 5-10 cm in diam., pulp white. Seeds black-brown, up to ca. 14 mm. Fl & Fr: March - December.

Economic Importance:

Economically vital for its nutritious, sweet fruit used fresh and processed (juices, ice cream), supporting livelihoods in tropical agriculture, especially drought-prone areas. Beyond food, its seeds, leaves, and bark are rich in potent compounds (acetogenins) used in traditional medicine for anti-cancer, anti-diabetic, anti-parasitic, and anti-inflammatory treatments, plus acting as organic pesticides, making it valuable in pharma, food, and agriculture.

Monoon longifolium (Sonn.) B.Xue & R.M.K. Saunders Taxon 61: 1032 (2012)

Evergreen trees, up to 8 - 12 m high. Bark greyish brown, smooth. Leaves simple, lanceolate, up to ca. 2.5-8 x 11-31 cm long, base oblique or rounded, margin undulate, apex caudate. Inflorescence cymose. Flowers pale green to greenish yellow, 10-20 in clusters. Sepals 3, broadly ovate triangular, pubescent, up to ca. 1-1.5 x 1-2 mm long. Petals linear, ovoid, ellipsoid, up to ca. 2-3 x 6-10 mm long. Fruit smooth, ovoid to ellipsoid, up to ca. 1.5 x 2-2.5 cm long, fleshy pulp. Seeds 1, light brown, ovoid to ellipsoid, up to ca. 1.4 x 2 cm long, curved. Fl & Fr: March - April.

Economic Importance:

Commonly known as the false ashoka or mast tree, holds significant economic importance across various sectors, particularly for its ornamental, wood, and medicinal uses.

Wrightia tinctoria (Roxb.) R.Br. Asclepiadeae: 59 (1810).

Deciduous small trees, up t0 15-20 m high, branchlets glabrous or puberulous. Leaves simple, up to ca. 2-5 x 7.5-15 cm long, elliptic oblong or obovate, acute or acuminate, base acute or rounded, margin entire, apex acute. Inflorescence a lax terminal cyme. Flower white or yellowish, up to ca. 2.5 cm across. Calyx up to ca. 2.5 mm long, lobes oblong, obtuse. Corolla tube up to ca. 5 mm long, lobes narrow, oblong. Corona many linear scales, filaments and corolla lobes. Fruit follicles, up to ca. 6-8 x 25-50 mm long. Seeds up to ca. 1.25-2 cm long, pale brown, coma twice as long as seed. Fl & Fr : February – October.

Economic Importance:

Significant economic value through its diverse applications in traditional medicine (Ayurveda, Siddha), providing treatments for skin issues like psoriasis, jaundice, and digestive problems; its wood is prized for

carving, toys (like Channapatna), furniture, and matchboxes; and it yields a natural blue dye (indigo) for textiles, creating sustainable livelihoods and supporting green economies.

Jacaranda mimosifolia D. Don Bot. Reg. 8: t. 631 (1822).

Deciduous trees, up to 15 m high. Bark grey, branchlets terete. Leaves compound, bipinnate, up to ca. 15-30 cm long, 13-31 pinnae, each pinna up to ca. 5-10 cm long, 13-41 sessile leaflets, up to ca. 1-4 x 3-12 mm long, narrowly elliptic, sharply acuminate, base cuneate, margin slightly revolute, apex retuse. Inflorescence terminal panicle, branches shortly puberulous. Flowers calyx reduced, broadly campanulate, 5-denticulate, up to ca. 1.5-2 x 1 mm long, Corolla purplish-blue tubular-campanulate, up to ca. 0.7-1.2 x 3-4 cm long, lobes up to ca. 0.3-0.8 cm long. Stamens 4, di-dynamous, filaments pubescent. Fruit compressed-orbicular capsule, up to ca. 3.6-6 x 3.2-6 cm long. Seeds thin, up to ca. 1.1-1.5 x 0.9-1.2 cm long. Fl & Fr: December - July.

Economic Importance:

Economic value mainly through ornamental horticulture, its valuable timber (Brazilian Rosewood), and traditional/medicinal uses (antimicrobial, antioxidant), though the latter needs more research, with extracts showing potential for pharmaceuticals, packaging, and natural products due to rich polyphenols and flavonoids, also attracting pollinators and providing shade/fodder in some regions.

Tabebuia rosea A. DC. Prodr. 9: 215 (1845).

Deciduous trees, up to 12-20 m high. Bark greyish brown, rough. Leaves compound, opposite, palmately compound, leaflets up to ca. 2-11 x 5-22 cm long, oblong to elliptic, base cuneate, margin entire, apex acute. Inflorescence terminal cymes. Flowers trumpet shaped. Calyx cupular, up to ca. 6-12 x 10-20 mm long. Petals 5, large, up to ca. 5-8 cm long, up to ca. 1.5-3 x 5-10 cm long. Stamens 4, didynamous, filaments up to ca. 14-18 mm long. Fruits pods. Seeds winged. Fl & Fr: January - March.

Economic Importance:

Significant economic value primarily as a stunning ornamental for urban landscapes and gardens, but also for its durable, attractive timber used in furniture and construction, while its bark and extracts show promise in traditional/alternative medicine for antibacterial and anti-inflammatory uses, contributing to its wide cultivation and high demand in forestry and landscaping.

Casuarina equisetifolia L. Amoen. Acad. 4: 143 (1759).

Evergreen trees, monoecious, up to 35 m high. Bark scaly, adaxially red-brown on old trees. Branchlets usually pendulous, greyish green, 0.8-0.9 mm x 10-27 cm long. Leaves erect and appressed to branchlets, 7 or 8 per whorl, lanceolate or triangular, up to ca. 1-3 mm. Male inflorescences up to 15-40 mm long, tepals 2, membranous, up to ca. 0.5-0.8 x 0.5 mm. Stamens up to ca. 2.0-2.5 mm long. Female inflorescence clustered ovoid-sub globose heads, up to 4-8 mm long, perianth 0, ovary unilocular 1-2 ascending ovules. Fruit Samaras 4-8 mm long, yellowish brown. Fl & Fr: December - July.

Economic Importance:

Economically vital for its fast-growing, versatile wood (fuel, paper, furniture, posts), use in coastal protection (windbreaks, erosion/dune stabilization), nitrogen fixation (improving soil fertility), and providing livelihood through cultivation for biomass power, pulp, and timber, supporting rural economies in tropical regions. Its bark also yields tannins, and traditional medicinal uses exist, though less scientifically substantiated.

Terminalia bellirica (Gaertn.) Roxb. Pl. Coromandel 2: t. 198 (1805).

Deciduous large trees, up to 12-50 m high. Bark ashy, often with bluish ting. Leaves simple, alternate or fascicled at end of branches, elliptic or elliptic obovate, alternate, base cuneate, margin entire, apex acute

or acuminate or rounded, up to ca. 7-12 x 8-20 cm long. Inflorescence axillary spikes. Flowers greenish yellow, up to ca. 5-6 mm across, sessile. Hypanthium up to ca. 2-2.5 mm long. Calyx lobes triangular, lobes up to ca. 1.5 mm long. Corolla absent. Stamens up to ca. 3-4 mm long, anthers up to ca. 1 mm long. Fruit drupe, obovoid up to ca. 1.5-2.5 cm in diam., Seeds 1. Fl & Fr: March - December.

Economic Importance:

Significant economic value through its use in Ayurvedic medicine (key in Triphala), n on-edible oil extraction for soaps bio diesel, fodder (leaves), tannins (bark) and as a source of non-timber forest products (NTFPs), supporting rural livelihoods, especially in India, with its fruits and parts fetching market prices and contributing to regional economies.

Terminalia catappa L. Mant. Pl.: 128 (1767)

Deciduous trees, up to 20 m high. Bark brownish black, longitudinally peeling, branchlets densely brownish yellow tomentose. Leaves simple, alternate, leaf lamina obovate to oblanceolate, up to ca. 8-15 x 12-30 cm, base cordate or truncate, margin entire, apex obtuse or mucronate. Inflorescences axillary, simple, slender spikes, up to ca. 15-20 cm long, numerous flowered. Flowers fragrant. Calyx tube distally cupular, up to ca. 7-8 mm long, lobes 5. Stamens 10, up to ca. 2-3 mm long. Fruit red or blackish green when ripe, ellipsoid, up to ca. 2-3.5 x 3-5.5 cm long, glabrous. Seeds 1. Fl & Fr: Throughout the year.

Economic Importance:

Significant economic value through its versatile timber (construction, furniture, fuel), nutritious seed kernels (edible oil, food), natural dyes (leather, inks, solar cells), medicinal properties (tannins for fish, bark extracts for medicine), and environmental uses (erosion control, agroforestry), offering multi-faceted applications in construction, food, pharmaceuticals, and sustainable practices.

Pithecellobium dulce (Roxb.) Benth. London J. Bot. 3: 199 (1844).

Evergreen trees, Bark grey, smooth, branchlets armed. Leaves compound, leaflets sessile, 1 pair per pinna, elliptic or obovate-elliptic, up to ca. 0.2-2.5 x 2-5 cm long, base slightly oblique, margin entire, apex obtuse or emarginate. Inflorescence in terminal panicles, pedunculate heads. Calyx funnel-shaped, up to ca. 1-1.5 mm long, tomentose. Corolla up to ca. 6 mm long. Stamens numerous, connate at base. Fruit pods, blackish brown, flat, up to ca. 5-7 cm in diam. Seeds dark brown, ovoid-ellipsoid, up to ca. 1.5 cm. Fl & Fr: December - July.

Economic Importance:

Significant economic value as a hardy, drought-tolerant tree used for live fencing, providing security and land demarcation. Its sweet, edible fruit pulp offers nutrition and is used in drinks, while leaves and bark are rich in bioactive compounds, used traditionally for treating ailments like diabetes, diarrhea, and inflammation, making it valuable in herbal medicine. It's also a source of animal fodder, fuel, and has potential in pharmaceuticals and agroforestry, thriving in harsh soils where other plants struggle.

Cassia fistula L. Sp. Pl.: 377 (1753).

Deciduous trees, up to 15 m high. Leaves compound, 30-40 cm, 3 or 4 pairs of leaflets, broadly ovate or ovate-oblong, 4-8 x 8-13 cm, base broadly cuneate, margin entire, apex acute. Inflorescence axillary racemes, up to 20-40 cm, lax, many flowered. Flowers up to ca. 3.5-4 cm in diam. Sepals narrowly ovate, up to ca. 1-1.5 cm, reflexed. Petals golden yellow, broadly ovate, subequal, up to ca. 2.5-3.5 cm, shortly clawed. Stamens 10, filaments up to ca. 3-4 cm, exceeding petals. Fruit legume, pendulous, blackish brown, terete, up to ca. 30-60 cm. Seeds numerous, separated by papery septa, elliptic, flattened. Fl & Fr: March - December.

Economic Importance:

Significant economic value through its use in traditional medicine (laxatives, anti-inflammatory, antioxidants), as a highly durable and valuable timber for tools/posts, for its tannin-rich bark in leather tanning, for its nutritious pulp in food/drinks, and as a popular ornamental/avenue tree and religious offering in Asia. Its various plant parts yield bioactive compounds, supporting pharmaceutical and cosmetic industries, while its cultural importance adds to its widespread cultivation.

Senna siamea (Lam.) H.S. Irwin & Barneby, Mem. New York Bot. Gard. 35: 98 (1982).

Deciduous trees, up to ca. 10-15 m high. Bark gray, sub-smooth, young branches ribbed. Leaves compound, up to ca. 20-30 cm long, leaflets 6-10 pairs, oblong or ovate-oblong, up to ca. 1.5-2.5 x 3-7 cm long, base rounded, margin entire, apex obtusely rounded, often emarginate, mucronate. Inflorescence axillary racemes, terminal panicle. Sepals suborbicular, unequal in size, outer smaller, inner larger, up to ca. 9 mm long, outside hairy. Petals yellow, broadly obovate, up to ca. 1.2-1.5 cm long. Stamens 10, filaments up to ca. 10 mm. Fruit pod, flat-tened, up to ca. 1-1.5 x 15-30 cm long. Seeds 10-30, up to ca. 2-2.5 x 5-6 mm, light brown.

Fl & Fr: July - December.

Economic Importance:

Significant economic value as a versatile tropical tree, providing valuable hardwood for furniture (Pheasant wood) and fuel, edible leaves/pods (when prepared correctly) in Thai/Burmese cuisine, medicinal compounds (barakol) for sleep/laxatives, and agroforestry benefits like shade (coffee/tea), erosion control, and soil improvement, making it crucial for timber, food, traditional medicine, and sustainable land use.

Bauhinia purpurea L. Sp. Pl.: 375 (1753).

Deciduous shrub or erect trees, up to 7-10 m high. Bark grayish to dark brownish, branches puberulent when young, later glabrous. Leaves simple, leaf lamina suborbicular, 9-14 x 10-15 cm long, base shallowly cordate, apex bifid, acute or rarely rounded apex. Inflorescence raceme few flowered, 20 flowers, axillary or terminal. Calyx spathe into 2 lobes, one with 2 teeth and other 3-toothed. Petals light pink, oblanceolate, up to ca. 4-5 cm, clawed. Fertile stamens 3. Staminodes 5 or 6, up to ca. 6-10 mm. Fruit legume, linear, flat, 2-2.5 x 12-25 cm long. Seeds compressed, sub-orbicular, up to ca. 12-15 mm in diam. Fl & Fr: February - December.

Economic Importance:

Significant economic value across Asia for its versatile uses: it's a nutritious food (leaves, flowers, pods), a source of fodder, fuelwood, and tannin, and prized in traditional medicine (antibacterial, anti-diabetic, anti-inflammatory), while also being an important ornamental and a source of timber for basic construction.

Vachellia nilotica (L.) P.J.H.Hurter & Mabb. D.J.Mabberley, Plant-book, ed. 3: 1021 (2008).

Deciduous trees, 1.2-18 m; bark grey or brown, rough, young branches glabrous to sub tomentose. Stipules spinescent, up to 8 cm. Leaves compound, 2-11 pairs of pinnae, leaflets 7-25 pairs, 1.5-7 × 0.5-1.5 mm, base oblique, margin entire, apex rounded glabrous to pubescent. Inflorescence axillary pedunculate heads. Flowers bright yellow. Fruit indehiscent, straight or curved, 4-22 × 1.3-2.2 cm. Seed blackish brown, 6-7 × 7-9 mm long, compressed. Fl & Fr: August-October.

Economic Importance:

Significant economic value as a multipurpose tree, providing valuable timber, rich sources of tannins (for leather/dyes), and gum Arabic for food/pharma; its pods/leaves are nutritious fodder, and nearly every part

is used in traditional medicine for ailments like infections, while also supporting agroforestry, providing fuel, and improving soil fertility through nitrogen fixation, making it crucial for rural livelihoods and ecological resilience land restoration in agroforestry systems.

Gliricidia sepium (Jacq.) Kunth ex Walp. W.G.Walpers, Repert. Bot. Syst. 1: 679 (1842).

Deciduous trees, up to 10 m high. Leaves compound, imparipinnate, leaflets opposite, 7-15, up to ca. 2-2.5 x 3-6 cm, elliptic, oblong, or lanceolate, base acute to rounded, margins entire, apex acute. Inflorescence racemes nearly terminal on lateral branches, many-flowered, up to ca. 12-15 cm long. Calyx up to ca. 4-5 mm long, truncate, puberulent. Corolla pink, standard petal up to 16 mm long, obovate. Stamens 10. Fruit pod, up to ca. 1.2-1.7 x 7-15 cm, oblong, flattened, glabrous. Seeds up to 1 cm long, flattened, light brown. Fl & Fr: February - April.

Economic Importance:

Economic value in sustainable farming by boosting soil fertility (as green manure/nitrogen fixer), providing rich animal fodder (high protein), fuel (firewood/charcoal), live fencing, and shade, enhancing crop yields and farmer income while reducing reliance on chemical fertilizers and supporting.

Pongamia pinnata (L.) Piere Fl. Forest. Cochinch. 4: t. 385 (1898).

Deciduous trees, up to 8-15 m high. Bark greyish white, smooth, branchlets tomentose, glabrescent. Leaves compound, up to ca. 5 or 7-foliolate, leaflet lamina ovate, broadly elliptic, or oblong, up to ca. 4-8 x 5-10 cm, base rounded, broadly cuneate, or truncate, apex rounded to acuminate. Inflorescences axillary racemose, up to ca. 15-20 cm long. Calyx, ovate, campanulate to calathi form, up to ca. 3 mm long. Corolla white or pink, up to ca. 1.2-1.4 cm long, standard orbicular, claw 2-callose, wings oblong, oblique, keels falcate. Stamens 10. Fruit pod, ellipsoid to oblong, up to ca. 1.5-2.5 x 4-5 cm long, indehiscent. Seed reniform. Fl & Fr: April - December.

Economic Importance:

Significant economic value as a source for sustainable biofuels (biodiesel), a natural pesticide/fertilizer (press cake), traditional medicine, and durable wood/materials, while also providing environmental benefits like nitrogen fixation, soil erosion control, and shade, making it crucial for rural livelihoods, energy security, and ecological restoration. Its oil-rich seeds and adaptability to poor soils make it ideal for biofuel, while its various plant parts offer diverse applications from soap making and tanning to fodder and pest control.

Delonix regia (Bojer ex Hook.) Raf. Fl. Tellur. 2: 92 (1837).

Deciduous large trees, up to 20 m high. Bark grayish brown, rough. Branchlets puberulent. Leaves compound, up to ca. 20-60 cm long. pinnae opposite, 15-20 pairs, leaflets 25 pairs, opposite, oblong, 3-4 x 4-8 mm long, base oblique, margin entire, apex obtuse. Inflorescence terminal or axillary corymbose racemes. Flowers bright red to orange-red, up to ca. 7-10 cm in diam. Sepals fused at base, reddish, margin greenish yellow. Petals reflexed, red, 3.5-4 x 5-7 cm long. Stamens curved, red, unequal in length, up to ca. 3-6 cm, filaments thick, up to ca. 5 mm long. Fruit pod, dark reddish brown, slightly curved, up to ca. 3.5-5 x 30-60 cm. Seeds 20-40, up to ca. 7 x 15 mm, smooth, hard.Fl & Fr: April - June.

Economic Importance:

Economically important as a popular ornamental shade tree, but also provides valuable products like oil from its seeds (used in tanning, soap, pharma), timber for local tools, and gum for binding tablets; its leaves are fodder, flowers offer bee forage/dyes, and the tree aids soil conservation, making it a multi-purpose resource.

Erythrina variegata L., Herb. Amb. 10. 1754.

Deciduous, unarmed trees to 12 m tall. Leaves 3-foliolate; rachis 15-35 cm long; petiole 15-20 cm long; leaflets rhomboid-ovate, 5-12 x 5-16 cm, thin coriaceous, stellate-pubescent, base deltoid or truncate, margin entire apex acuminate. Flowers bright red, 2.5 cm across, in 5-15 cm long, dense racemes. Pods torulose, cylindric, deep brown, stipitate. Seeds 6-8, dark purple. Fl.&Fr: November – April.

Economic Importance:

Significant economic value as a versatile, multipurpose tree in agroforestry, providing high-protein fodder for livestock, live fencing, shade for crops like coffee, green manure (nitrogen-fixing), and raw materials for pulp, paper, and even potential pharmaceuticals, while also serving as an important ornamental and source for traditional remedies and edible seeds (when cooked).

Sterculia urens Roxb, Pl. Coromandel 1: 25 (1795).

Deciduous medium-sized trees, up to 15 m high. Bark thick, greyish-white or reddish, smooth. Leaves simple, crowded at ends of branches, palmately 5- lobed, up to ca. 20-30 cm diam., base cordate, margin entire, apex acuminate. Inflorescence in terminal panicles. Flowers greenish yellow, small, follicles 4-6, ovoid oblong, up to ca. 2.5 cm diam. Fruit sessile, ovate-lanceolate up to ca. 7.5 cm long. Seeds up to ca. 6 mm long, oblong, 3-6 per carpel. Fl & Fr: January - April.

Economic Importance:

Economically vital for its versatile gum (Karaya gum) used globally in food (thickeners, laxatives), pharmaceuticals (denture adhesives, drug delivery), cosmetics (hair sprays), textiles (printing paste), and paper (pulp binder), providing significant income for tribal communities in India, though over-exploitation threatens its survival, necessitating conservation.

Sterculia foetida L., Sp. Pl.: 1008 (1753).

Deciduous trees, up to 20-30 m high. Bark greyish white, smooth. Leaves compound,palmately 7-9-foliolate, leaflet lamina elliptic-lanceolate, up to ca. 3-5 x 10-15 cm long, base cuneate, margin entire, apex long acuminate or caudate. Inflorescence apical on branchlets, paniculate, erect, many-flowered. Calyx purple-red, up to ca. 12 mm long, lobes elliptic-lanceolate, yellowish- brown pubescent. Male flowers: Stamens 12-15, capitate. Female flowers: carpels 5, hairy. Fruit follicle, ellipsoid or boat-shaped, up to ca. 5-8 cm long, woody. Seeds 10-15, black, ellipsoid, up to ca. 1.5 cm, smooth. Fl & Fr: September - October.

Economic Importance:

Economic value through its edible seeds (rich in oil and protein, used as food/oil), medicinal properties (bark, leaves for fever, rheumatism, etc., and bioactive compounds for anti-inflammatory/diabetic uses), timber (for basic construction, packing), and gum (Karaya gum), plus uses as ornamental/shade trees, making it a multi-purpose tropical resource.

Bombax ceiba L. Sp. Pl.: 511 (1753), nom. Cons.

Deciduous trees up to 25 m high. Bark gray-white, branches spreading. Leaves compound, leaflets 5-7, petiolules 1.5-4 cm, lamina oblong to oblong-lanceolate, 3.5-5.5 x 10-16 cm, glabrous, base broad or tapering, apex acuminate. Inflorescence solitary, terminal, up to ca. 10 cm in diam. Calyx cup-shaped, up to ca. 2-3 cm, lobes 3-5, semi-orbicular, up to ca. 1.5 x 2.3 cm. Petals usually red, sometimes orange-red, obovate-oblong, 3-4 x 8-10 cm, fleshy, both surfaces stellate puberulent. Filament tube short, more than 10 stamens, inner bifid, central filaments 10 stamens. Fruit capsule ellipsoid, 4.5-5 x 10-15 cm long. Seeds many, obovate, smooth.

Fl & Fr: February - May.

Economic Importance:
Significant economic value through its versatile parts: the fluffy seed fiber (kapok) is used for stuffing mattresses, pillows, and life jackets; its light wood serves for matchboxes and packing; its flowers, leaves, and roots are used in traditional medicines (Ayurveda, etc.) for ailments like dysentery, ulcers, and as tonics, while also being eaten as vegetables; and its gum has medicinal and bookbinding uses, supporting diverse local economies and traditional practices

Ficus retusa L. Mant. Pl.: 129 (1767).
Evergreen tree, often epiphytic. Bark grayish. Leaves simple, up to 1.5-3.5 x 8.2 in. long. ovate-elliptic or rhomboid, base 3-nerved. Inflorescence axillary syconia. Male flowers numerous. Perianth segments 3, oblanceolate, spathulate, stamens 1. Gall flowers-perianth segments 3, Female flowers perianth minute, ovary smooth. style short, stigma clavate or cylindric. Receptacle 2-3 in. across, sessile. Fruit synconus fruit pairs, axillary, sub-globose, yellowish when ripe. Achenes ovoid or obovoid. Fl & Fr: May - July.

Economic Importance:
Extensive use as an ornamental plant, its applications in traditional medicine, and potential uses in modern biotechnology and as a source of natural fibres.

Ficus religiosa L. Sp. Pl.: 1059 (1753).
Deciduous trees, up to 15-25 m high, epiphytic when young, crown wide when mature. Bark gray, smooth fissured. Branchlets grayish brown. Leaves simple, leaf lamina triangular-ovate, up to ca. 8-12 x 9-17 cm, base broadly cuneate to cordate, margin entire or undulate, apex acute to caudate. Inflorescence axillary syconia. Figs axillary on leafy branchlets, paired or solitary, globose to depressed globose, up to ca. 1-1.5 cm in diam. Male, gall, and female flowers within same fig. Male flowers: few, near apical pore, sessile, calyx 2-or 3-lobed, margin revolute; stamen 1; filament short. Gall flowers: pedicellate; calyx 3- or 4-lobed; ovary globose, smooth; style short; stigma enlarged, 2-lobed. Female flowers: sessile; calyx 4-lobed, broadly lanceolate; ovary globose, smooth; stigma narrow. Fl & Fr: February - June.

Economic Importance:
Significant economic value through its extensive use in traditional medicine (Ayurveda) for ailments like asthma, diabetes, and digestive issues, with all parts (bark, leaves, fruit) used for remedies and nutraceuticals. Beyond health, it provides materials for paper, dyes, and fuel, serves as fodder for animals (elephants, camels), and is cultivated as an ornamental tree in parks and gardens, supporting local economies and biodiversity

Azadirachta indica A. Juss. Bull. Sci. Nat. Géol. 23: 236 (1830).
Deciduous trees, up to 20 m high, bark greyish-brown. Leaves compound, imparipinnate, alternate, 14-30 cm long, leaflets 7-15, lamina 1.5-2.5 x 4.5-7.5 cm, lanceolate or falcate, base oblique, margin serrate, apex acuminate, glabrous. Inflorescence raceme. Flowers bisexual, 8 mm across, white, axillary panicles. Sepals 5, connate at base, ovate, margin ciliate. Petals 5, free, white, oblong-obovate, pubescent. Fruit drupe, 0.5 x 1.5 cm, oblong-ovoid. Seed one, surrounded by sweet pulp. Fl & Fr: March - September.

Economic Importance:
Significant economic importance due to the versatile applications of all its parts in various industries, particularly agriculture, medicine, and cosmetics. Its natural properties make it an eco-friendly and sustainable resource.

Melia azedarach L., Sp. Pl. 384. 1753.
A medium-sized tree with dark grey bark. Leaves imparipinnate (2-3 pinnate); leaflets 2-5 pairs, opposite, ovate-obovate or lanceolate, 3-5.5 x 1-2 cm, glabrous, oblique to cuneate, serrate. Flowers lilac, in panic-

les. Drupes globose, fleshy, yellow. Seed solitary, elliptic. Fl.& Fr.: March – June.

Economic Importance:

Significant economic value through its versatile timber for furniture/construction, use as fuelwood, nutritious fodder for livestock, natural insecticidal/medicinal properties, ornamental landscaping, and its toxic berries used for crafts (beads) and natural pest control, despite the fruit's toxicity to humans/animals.

Moringa oleifera Lam. Encycl. 1: 398 (1785).

Deciduous trees, up to 12 m high. Bark grey, pale smooth to rugose. Leaves compound, 3-pinnate, up to ca. 25-60 cm long, leaflets in 4-6 pairs, ovate, elliptic, or oblong, up to ca. 0.5-1.2 x 1-2 cm, puberulous, base rounded to cuneate, margin entire, apex rounded to emarginate. Inflorescence widely spreading panicle. Flowers white to cream, fragrant. Sepals lanceolate to linear-lanceolate, up to ca. 0.7-1.4 mm long, usually puberulent. Petals spatulate, up to ca.1-2 cm long, glabrous or puberulent at base. Stamens 5, unequal, hairy at base. Fruit capsule 3-valved, up to ca. 1-3 x 20-50 cm long, dehiscent. Seeds sub globose, 3-angled, up to ca. 8-15 mm in diam. wings 0.5-1 cm wide, rarely absent. Fl & Fr: Throughout the year.

Economic Importance:

Significant economic value globally as a versatile, nutrient-rich plant, providing income through food (leaves, pods), medicine, cosmetics, animal feed, biofuel (oil), and eco-friendly water purification (seeds). Its adaptability to harsh conditions fosters rural livelihoods, enhances food security, and supports sustainable agriculture, creating diverse market opportunities from "soil to superfood" for small farmers and industries alike.

Eucalyptus globulus Labill. Voy. Rech. Pérouse 1: 153 (1800).

Deciduous trees, up to 30 m high. Bark smooth, greenish white. Leaves simple, opposite, sessile, up to ca. 2-7 x 6-12 cm, bluish-green, glaucous, juvenile leaves opposite, sessile, up to 4-9 x 7-15 cm, elliptic-ovate, adult leaves alternate, glabrous, leaf lamina up to ca. 3-4 x 10-30 cm, falcate or lanceolate, base acute or obtuse, margin entire, apex acute or acuminate. Inflorescence axillary corymbs. Flowers bisexual, up to 4 cm across, axillary, solitary. Operculum long, flat. Stamens numerous, free, up to ca. 0.5-1.5 cm. Fruit capsule, sessile, globose or hemispherical, 4-ribbed. Seeds numerous. Fl & Fr: September - December.

Economic Importance:

Significant economic value through its fast-growing wood for pulp, paper, timber, and fuel, alongside valuable essential oils from leaves used in medicines (cold relief, decongestants), household products, and perfumes, providing income, employment, and rural development, though its high water use sparks ecological debate.

Syzygium cumini (L.) Skeels, Bull. Bur. Pl. Industr. U.S.D.A. 248: 25 (1912)

Deciduous trees, up to ca. 6-20 m high. Branchlets greyish white, terete. Leaves simple, leaf lamina broadly elliptic to narrowly elliptic, up to ca. 3-7 x 6-12 cm long, base broadly cuneate to rarely rounded, margin entire, apex rounded to obtuse. Inflorescences axillary occasionally terminal, paniculate cymes, up to ca. 11 cm long. Hypanthium obconic or long pyriform, up to ca. 4 mm or 7-8 mm long. Calyx lobes, up to ca. 0.3-0.7 mm long. Petals 4, white or light purple, ovate and slightly rounded, up to ca. 2.5 mm long. Stamens numerous, up to ca. 3-4 mm long. Fruit red to black, ellipsoid to pot-shaped, up to ca. 1-2 cm long. Seeds 1, up to ca. 1-1.5 mm long. Fl & Fr: March - June.

Economic Importance:

Significant economic value through its versatile fruit (jams, wines, juices), strong timber (construction, firewood, charcoal), and medicinal properties (diabetes, antioxidants), with nearly all parts utilized for

food, fodder, essential oils, and traditional remedies, making it important for food security, agroforestry, and pharmaceutical industries.

Nyctanthes arbor-tristis L. Sp. Pl.: 6 (1753).

Deciduous shrub or small trees, up to 5-8 m high. Bark brown, smooth. Branchlets pubescent, 4-angled. Leaves simple, ovate, shortly acuminate, base rounded, cuneate or acute, margin serrate, apex acute. Inflorescence corymbose cymose panicles. Flowers white, sweet scented, sessile, up to 3-7 together. Calyx tube funnel shaped, 4-5 toothed. Corolla tube cylindrical, orange red, lobes white, 5-8. Stamens 2, subsessile, at mouth of corolla tube. Fruit capsule, compressed, orbicular. Seeds 2, brown, smooth. Fl & Fr: September - April.

Economic Importance:

Significant economic value through its fragrant flowers used in garlands and essential oils, its potent medicinal properties (anti-inflammatory, antioxidant, etc.) in traditional medicine (Ayurveda), a natural dye (nyctanthin) for textiles/food, and its rough leaves for polishing, making it commercially important in pharma, cosmetics, food, and textile industries, with potential for high revenue.

Ziziphus mauritiana Lam. Encycl. 3: 319 (1789).

Evergreen shrub or small trees, up to 15 m high. Bark dark grey or dull black, irregularly fissured. Leaves simple, alternate, oblong-elliptic, up to ca. 1.5-5 x 2.5-6 cm long, base and apex rounded or slightly notched, margin finely wavy-toothed. Inflorescence axillary cymes, up to ca. 1-2 cm long, 7-20 flowers, flowers up to ca. 2-3 mm across, greenish-yellow. Calyx 5 deltoid lobes, hairy outside, glabrous inside. Petals 5, sub spathulate, concave, reflexed. Fruit drupe, globose to ovoid, up to ca. 4 x 6 cm long. Seeds 1-2, elliptic, brown, up to ca. 6 mm long. Fl & Fr: September - November.

Economic Importance:

Significant economic value as a hardy, multipurpose tree, providing nutritious fruits for fresh consumption and value-added products (jams, beverages) while offering vital fodder, fuel, and timber, stabilizing soil, and generating income, especially in arid regions where other crops fail, boosting rural livelihoods.

Aegle marmelos (L.) Correa., Trans. Linn. Soc. London 5: 223 (1800).

Deciduous trees up to 12 m high, branchlets cylindric. Leaves compound, alternate-3- 5 foliolate, leaflets subsessile, ovate-elliptic or elliptic-lanceolate, base oblique, margin crenate-serrate, tapering apex, membranous. Inflorescences axillary or terminal, racemose or corymbose, up to ca. 4-5 cm long. Flowers bisexual, greenish white or yellow. Calyx cupular, finely puberulent, lobes 4 or 5. Petals 5, ovate-oblong, subequal, up to ca 6 x 12 mm, spreading, glabrous. Stamens numerous, filaments subulate, up to ca 7 mm long. Ovary ovoid, 4-5 mm long. Fruit berries, ovoid, up to ca. 6-10 cm across, woody. Seeds oblong, flat. Fl & Fr: January - May.

Economic Importance:

Significant economic value, primarily from its highly medicinal fruit used in Ayurvedic remedies (diarrhea, diabetes) and processed into beverages (sherbet, squash, jam). Economically, it's a versatile agroforestry crop providing fodder, small timber, gum (adhesive), and potential for biodiesel from seeds, supporting rural livelihoods and industrial applications, though often underutilized. Its adaptability makes it good for reforestation, and its bioactive compounds drive demand in pharmaceuticals.

Santalum album L, Sp. Pl.: 349 (1753).

Evergreen trees, up to 10 m high. Bark dark grey to black, rough. Leaves simple, opposite, slender, glabrous, leaf lamina up to ca. 2-4 x 3.5-12 cm long, elliptic-ovate or ovate-lanceolate, base acute or round, margin entire, apex acute, margin entire. Inflorescence in axillary and terminal paniculate cymes. Flowers

bisexual, up to ca. 5-6 mm across, reddish-purple, tepals 5, basally connate, tube campanulate, up to 2 mm long, shortly connate, lobes up to ca. 1.5 x 2.5 mm, fleshy. Stamens 5, filaments up to ca. 1 mm long. Fruit drupe, up to ca. 8-12 mm across, globose, blackish-purple. Seeds one.
Fl & Fr: December - April.

Economic Importance:

Holds immense economic value primarily for its highly fragrant heartwood and essential oil, used globally in luxury perfumes, cosmetics, traditional medicine (Ayurveda), religious rituals (incense, carvings), and high-end products like soaps and art, generating significant export revenue and rural employment, though its high demand and slow growth necessitate careful cultivation and conservation due to its vulnerable status.

Sapindus emarginatus Vahl, Symb. Bot. 3: 54 (1794).

Deciduous trees, up to ca. 15-18 m high. Leaves compound, up to ca. 15-30 cm long, leaflets sub-sessile, 2-3 pairs, up to ca. 5-7 x 8-18 cm long, elliptic-lanceolate, glabrous, entire, acute, base slightly oblique, margin entire, apex rounded or emarginate. Inflorescence in panicles. Flowers greenish-white. Sepals 5, connate at base, up to ca. 4-5 mm long, ovate-oblong, pubescent. Petals 5, free, up to ca. 5-6 mm long, lanceolate-ovate, clawed. Stamens 8, free, filaments up to ca. 2-3 mm long. Fruit 2-3 lobed, up to ca. 1.3-2 cm long. Seed 1, up to ca. 6-9 mm long, black.

Economic Importance:

Economically vital for its natural soap properties (saponins in fruit), used in eco-friendly shampoos/detergents, and for its rich bioactive compounds in Ayurvedic/folk medicine (treating asthma, skin issues, hair loss). Its flowers are excellent honey sources, seeds make decorative items, and wood/bark have traditional uses, making it a valuable multipurpose tree for cosmetics, health, agroforestry, and crafts.

Holoptelea integrifolia (Roxb)Planch Ann. Sci. Nat., Bot., sér. 3, 10: 259 (1848).

Deciduous trees, up to 25 m high. Bark whitish-grey, smooth, branchlets pubescent. Leaves simple, alternate, lamina up to ca. 2.5-6 x 6-12.5 cm, ovate-oblong, ovate or elliptic-ovate, base rounded or subcordate, margin entire, apex acuminate, distantly serrate when young. Inflorescence axillary fascicles. Flowers polygamous, emerge before leaves, up to ca. 5-8 mm across, tepals 4 or 5, free, anthers pubescent. Female flowers ovary superior, compressed, 2-winged. Fruit samara, up to ca. 3 cm across, glabrous. Seeds one. Fl & Fr: January - March.

Economic Importance:

Significant economic value in India for its versatile wood (furniture, implements, fuel), valuable medicinal properties (bark, leaves, seeds used in Ayurveda for inflammation, skin issues, tumors), edible oil from seeds, high-protein fodder, and potential in afforestation, providing raw materials for local economies and traditional remedies. Its seeds also offer minerals and potential for edible oil, while bark and leaves are used for various ailments, making it a crucial resource for both commercial and subsistence purpose.

S.No	Scientific Name	Family	IUCN Status
1	Phoenix sylvestris (L.) Roxb.	Arecaceae	Not Evaluated
2	Mangifera indica L.	Anacardiaceae	Data Deficient
3	Annona squamosa L.	Annonaceae	Least Concern
4	Monoon longifolium (Sonn.) B.Xue & R.M.K. Saunders	Annonaceae	Least Concern

5	Wrightia tinctoria (Roxb.) R.Br.	Apocynaceae	Least Concern
6	Jacaranda mimosifolia D. Don	Bignoniaceae	Vulnerable
7	Tabebuia rosea A. DC.	Bignoniaceae	Least Concern
8	Casuarina equisetifolia L.	Casuarinaceae	Least Concern
9	Terminalia bellirica (Gaertn.) Roxb.	Combretaceae	Least Concern
10	Terminalia catappa L.	Combretaceae	Not Evaluated
11	Pithecellobium dulce (Roxb.) Benth.	Fabaceae	Least Concern
12	Cassia fistula L.	Fabaceae	Not Evaluated
13	Senna siamea (Lam.) H.S. Irwin & Barneby	Fabaceae	Least Concern
14	Holoptelea integrifolia (Roxb)Planch	Ulmaceae	Least Concern
15	Sapindus emarginatus Vahl	Sapindaceae	Not Evaluated
16	Santalum album L	Santalaceae	Vulnerable
17	Aegle marmelos (L.) Correa	Rutaceae	Near Threatened
18	Ziziphus mauritiana Lam.	Rhamnaceae	Least Concern
19	Nyctanthes arbor-tristis L.	Oleaceae	Least Concern
20	Syzygium cumini (L.) Skeels	Myrtaceae	Least Concern
21	Eucalyptus globulus Labill.	Myrtaceae	Least Concern
22	Moringa oleifera Lam.	Moringaceae	Not Evaluated
23	Azadirachta indica A. Juss.	Meliaceae	Least Concern
24	Melia azedarach L	Meliaceae	Least Concern
25	Ficus retusa L.	Moraceae	Least Concern
26	Ficus religiosa L.	Moraceae	Least Concern
27	Sterculia foetida L.	Malvaceae	Least Concern
28	Bombax ceiba L.	Malvaceae	Least Concern
29	Sterculia urens Roxb	Malvaceae	Least Concern
30	Erythrina variegata L.	Fabaceae	Least Concern
31	Delonix regia (Bojer ex Hook.) Raf.	Fabaceae	Least Concern
32	Gliricidia sepium (Jacq.) Kunth ex Walp.	Fabaceae	Least Concern
33	Pongamia pinnata (L.) Piere	Fabaceae	Least Concern
34	Vachellia nilotica (L.) P.J.H.Hurter & Mabb. D.J.Mabberley,	Fabaceae	Least Concern
35	Bauhinia purpurea L.	Fabaceaee	Least Concern

Table 1: List of Plant families and their IUCN status.

In this study the total number of 35 tree taxa reported which belongs to 19 families The most dominant family is Fabaceae, with 9 species, contributing a significant proportion of the total dataset. This indicates

that Fabaceae is highly adaptable and widely represented in the study area, likely due to its ecological versatility, nitrogen-fixing ability, and economic importance. Following this, Malvaceae (3 species) shows moderate representation, suggesting favourable growth conditions for its members.

Several families such as Annonaceae, Bignoniaceae, Combretaceae, Myrtaceae, Meliaceae, and Moraceae each have 2 species, indicating a moderate level of diversity. These families collectively contribute to the structural and ecological balance of the vegetation, representing a mix of trees, shrubs, and ornamental species.

On the other hand, a large number of families Arecaceae, Anacardiaceae, Apocynaceae, Casuarinaceae, Ulmaceae, Sapindaceae, Santalaceae, Rutaceae, Rhamnaceae, Oleaceae, and Moringaceae—are represented by only one species each. This suggests either limited distribution, specific habitat requirements, or underrepresentation in the surveyed area.

Overall, the data reflects a skewed distribution, where a few families (especially Fabaceae) dominate, while many others show minimal representation. This pattern is common in ecological studies and indicates uneven biodiversity, possibly influenced by environmental conditions, human activity, or sampling scope. The presence of multiple families, even with low counts, highlights the taxonomic richness of the area, which is important for conservation and ecological stability

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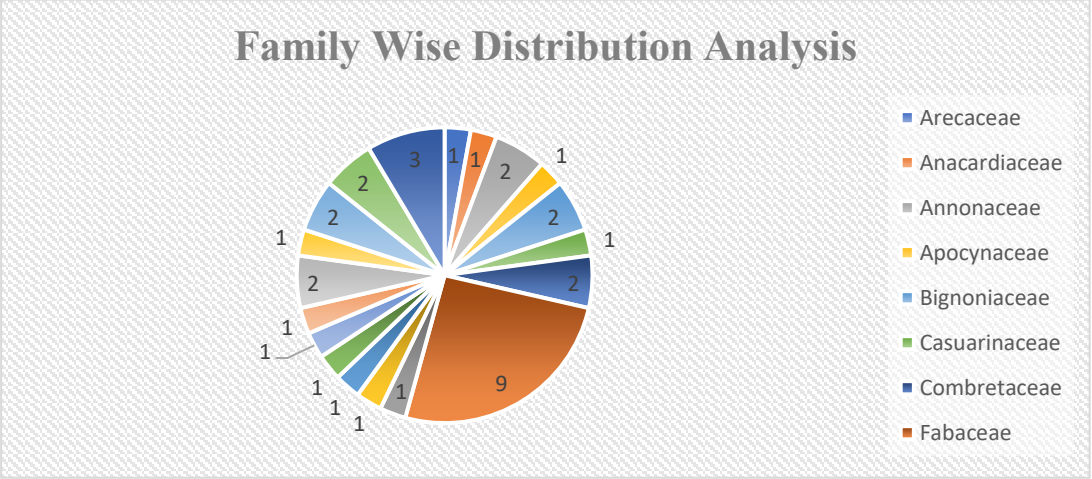

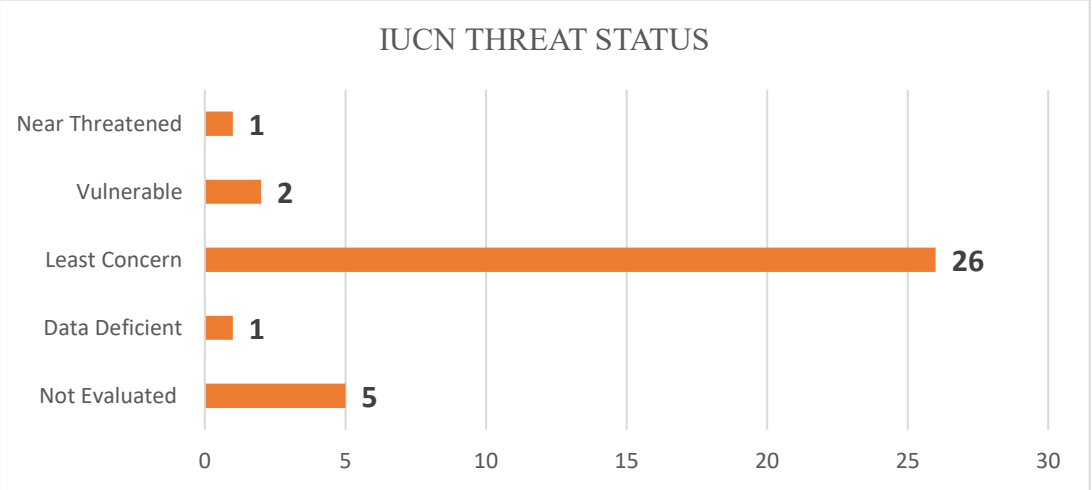

FIGURE 1: Data Collection during Survey.

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