

GreenRoots

– Exploring Trees, Herbs & Everyday Plants



Visthar Eco Sanctuary



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EDITOR'S REFLECTION

This catalog, Green Roots – Exploring Trees, Herbs & Everyday Plants, is the result of a shared learning journey during our internship at Visthar. As editors Aashrita Panigrahi, Sneha Parimita Swain, and Ananya Chakraborty, we began this work with a simple goal: to document the plants around us. What we discovered along the way was much more than a list of species.

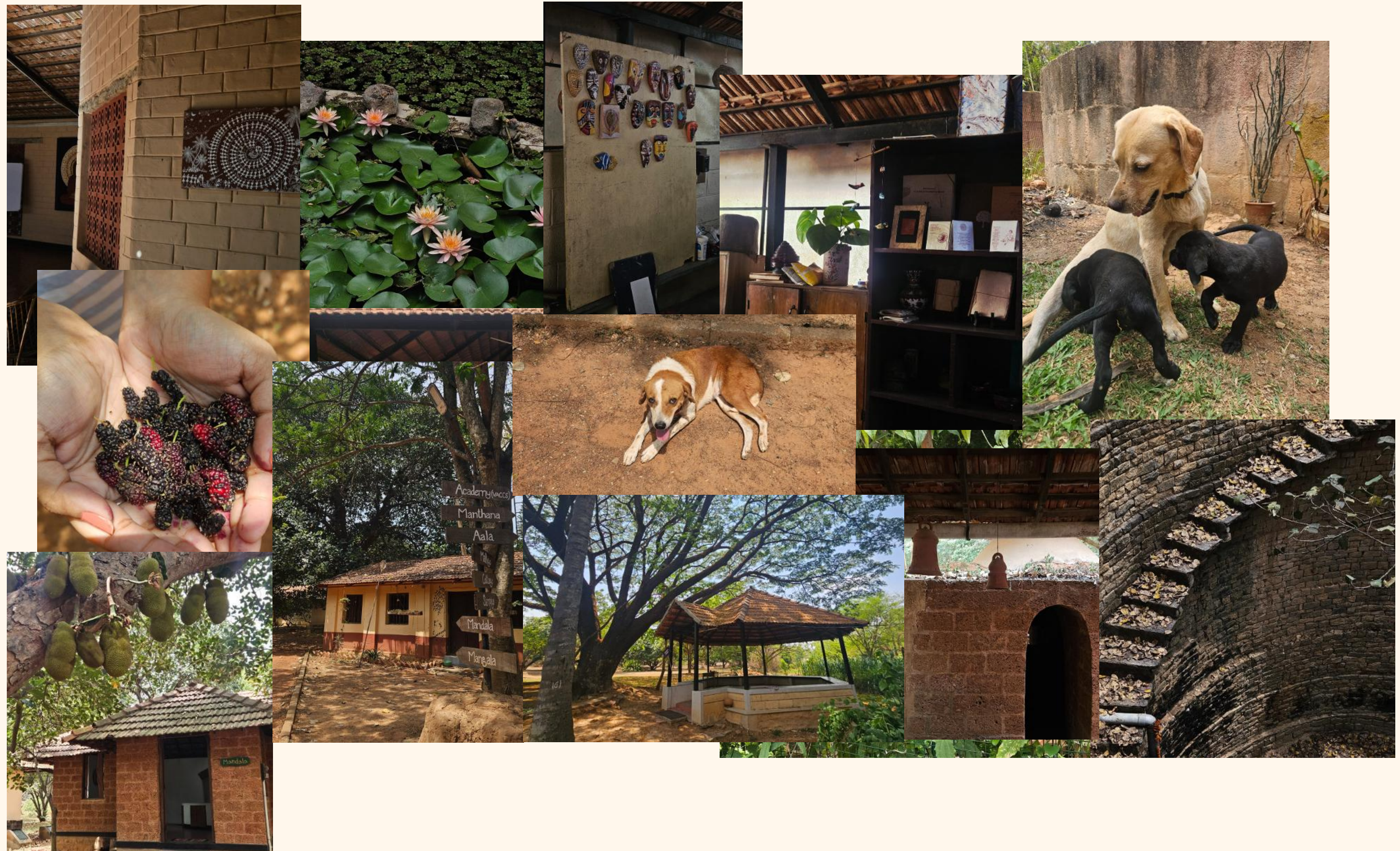
Spending time on the Visthar campus allowed us to slow down and observe nature closely. Plants that once seemed ordinary became meaningful as we learned about their ecological roles and medicinal uses. Walking through the space, identifying species, cross-checking information, and organizing it into this catalog helped us understand the depth of biodiversity that exists within a familiar environment.

This process also taught us the value of collaboration. Each of us brought different perspectives whether in research, writing, or structuring the catalog and together, we shaped Green Roots into a guide that is both informative and easy to understand. There were challenges, from identifying lesser-known species to ensuring accuracy, but these moments made the experience more engaging and rewarding.

Interning at Visthar played a significant role in shaping this work. The environment encouraged us to connect learning with real-world observation and to see sustainability not just as a concept, but as something present in everyday surroundings. Through this catalog, we hope readers experience a similar shift in perspective to notice, appreciate, and value the plants around them. For us, Green Roots is not just a project, but a reflection of growth, curiosity, and a deeper connection with nature.



VISTHAR THROUGH OUR LENS





"The Earth is what we all have in common.
To cherish what remains of it and to foster its renewal is our only hope."
— Wendell Berry

TOWARDS A REGENERATIVE FUTURE

Welcome to **Green Roots**, a documentation of the trees and plants that define Visthar's landscape. This catalog is far more than a botanical list; it is a testament to a decades-long commitment to an ecological practice that views the Earth not as a resource to be managed, but as a community to which we belong.

At Visthar, our pursuit of social justice is inextricably linked to eco-justice. We recognize that true transformation requires a fundamental shift in perspective—a worldview that honors the sanctity of all life. We have nurtured this campus as an Eco Sanctuary: a living learning space where we practice the art of coexistence. In an era of rapid urbanization and growing ecological disconnection, this space serves as a vital reminder that we are part of a larger, breathing web of existence.

The "earth wisdoms" gathered in these pages are the silent teachers of our community. We see the principle of interdependence in the hidden root networks that sustain the sanctuary, reminding us that no movement and no individual thrives in isolation. We find the wisdom of seasonality in the patient shedding of leaves, teaching us that there is a time for surrender and a time for renewal. In the way this ecosystem cycles its energy, we find the blueprint for a truly sustainable and regenerative way of living.

Green Roots is an invitation to explore this sanctuary with fresh eyes and a quiet heart. As you walk the campus, let this guide help you recognize the vast life that surrounds us. By learning their names and stories, we move from mere observers to active stewards of the natural world. We hope that these pages encourage you to walk softly and realize that our own roots are in the same sacred ground as the trees and plants around us.

I express my sincere appreciation to Aashrita, Sneha, and Ananya, our interns from XIM University. Their diligent work in documenting and compiling this catalog ensures that the ecological wisdom of our campus is preserved and shared with all who seek its shade.

Mercy Kappen
Strategic Advisor, Visthar





" Regeneration is not something that
begins with humans; it begins with the Earth.
When we become part of that flow,
we become regenerators too."
–Vandana Shiva

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Achiote / Lipstick Tree: The Biodiversity Enhancer

Scientific Name: Bixa orellana | *Family:* Bixaceae | *Kannada Name:* Sinduri (ಸಿಂಧೂರಿ)

Ecological Significance: This tropical shrub enhances biodiversity by attracting pollinators such as bees and butterflies with its vibrant flowers. It contributes to green cover and fits well into agroforestry systems, promoting sustainable land use. The plant improves soil quality through organic matter addition and supports ecological balance. Its adaptability to tropical climates makes it useful in maintaining diverse ecosystems and promoting sustainable agricultural practices in both rural and cultivated landscapes.



Ajwain Leaf: The Herb of Digestive Relief

Scientific Name: Plectranthus amboinicus | *Family:* Lamiaceae | *Kannada Name:* Doddapatre (ದೊಡ್ಡಪತ್ರೆ)

Biological Significance: This hardy, succulent herb grows readily in a wide range of climates and requires minimal care, making it ideal for home and urban gardens. It supports biodiversity and promotes sustainable gardening practices through its resilience and adaptability.

Medicinal Significance: Ajwain leaves are valued for their strong medicinal aroma and therapeutic properties. They are commonly used to treat cough, cold, and digestive issues. With antimicrobial and anti-inflammatory benefits, they play an important role in traditional remedies for overall health and wellness.



Aloe Vera: The Plant of Healing and Renewal

Scientific Name: Aloe vera | *Family:* Asphodelaceae | *Kannada Name:* Lolisara (ಲೋಲಿಸರ)

Biological Significance: This succulent plant is well-adapted to dry, arid conditions. It stores water in its thick, fleshy leaves, helping it survive with very little moisture. This ability also helps conserve water in the surrounding environment. The plant helps stabilize soil and prevent minor erosion. Due to its low water needs and high resilience, it is widely used in sustainable gardening and xeriscaping practices.

Medicinal Significance: Aloe vera is well known for its soothing and healing properties. It is commonly used to treat burns, wounds, and skin irritation. The gel helps cool the skin and promote healing. It also supports digestion and boosts immunity when used properly. Aloe vera is widely used in herbal medicine as well as in cosmetic and skincare products.



Amla: The Elixir of Vitality

Scientific Name: Phyllanthus emblica | *Family:* Phyllanthaceae | *Kannada Name:* Nelli (ನೆಲಿ)

Biological Significance: Amla is a hardy tree that grows in diverse conditions and helps prevent soil erosion. Its fruits support birds and wildlife, contributing to biodiversity.

Medicinal Significance: Amla is rich in Vitamin C and antioxidants, helping boost immunity and overall health. It aids digestion, improves skin and hair, and helps regulate blood sugar, making it valuable in traditional Ayurvedic practices.



Angel's Trumpet: The Fragrant Bio-Filter

Scientific Name: Brugmansia | *Family:* Solanaceae | *Kannada Name:* Angel's Trumpet (ಏಂಜೆಲ್ಸ್ ಟ್ರಂಪೆಟ್)

Ecological Significance: While famous for its massive blooms, this plant is an effective bio-indicator of soil moisture and nutrient levels. Biologically, it provides a specialized niche for nocturnal pollinators, such as hawk moths, which are attracted to its intense evening fragrance. It contributes to atmospheric purification by absorbing pollutants through its large leaf surface area. Medicinally, although toxic if ingested, its extracts are used in controlled doses for respiratory relief, highlighting its role as a potent biological powerhouse in controlled landscaping.



Anthurium: The Tropical Hydrant

Scientific Name: Anthurium Andraeanum | *Family:* Araceae | *Kannada Name:* Anthurium (ಅಂತೂರಿಯಂ)

Ecological significance: The anthurium is an epiphytic specialist, adapted for high-humidity environments. Its waxy spathes act as "rain gutters," directing water toward its roots to maximize hydration. This makes it an expert at maintaining local water cycles. It is particularly effective at phytoremediation, filtering ammonia and xylene from the air—chemicals often found in cleaning products. By transpiring heavily, it helps maintain the "dew point" indoors, preventing the air from becoming too dry and protecting the health of nearby, more sensitive plant species.



Areca palm: the climate controller

Scientific Name: *Dypsis lutescens* | *Family:* Arecaceae | *Kannada Name:* Adike thaali (ಅಡಿಕೆ ತಾಳಿ)

Ecological Significance: Often called a natural humidifier, the areca palm is an ecological "climate controller." A large plant can release nearly a liter of water daily, cooling the surrounding air through evapotranspiration. This makes it essential for mitigating urban heat islands. Biologically, its massive frond surface area allows it to process large volumes of CO₂, while its root system filters salts from the soil. In landscapes, it provides a structured canopy for shade and nesting, supporting local biodiversity and maintaining moisture in the surrounding earth.



Avocado: The Nutrient-Rich Evergreen Tree

Scientific Name: Persea americana | *Family:* Lauraceae | *Kannada Name:* Benne Hannu (ಬೆಣ್ಣೆ ಹಣ್ಣು)

Biological Significance: Avocado is a tropical evergreen tree that supports biodiversity by providing food and habitat for birds and insects. It grows well in warm climates and contributes to soil health through organic matter. The tree plays a role in sustainable agriculture and is often cultivated in mixed cropping systems.

Medicinal Significance: Avocado is rich in healthy fats, vitamins, and antioxidants that support heart health, improve digestion, and boost immunity. It helps in reducing cholesterol levels and promotes skin and hair health. Traditionally, it is valued for its nutritional and therapeutic benefits.



Bahera: The Forest Support Tree

Scientific Name: Terminalia bellirica | *Family:* Combretaceae | *Kannada Name:* Tare (ತಾರೆ)

Ecological Significance: Bahera is a large deciduous tree that plays a vital role in maintaining forest ecosystems. It provides food and habitat for birds, insects, and wildlife, thereby supporting biodiversity. Its extensive root system helps in soil stabilization and prevents erosion. The tree contributes to nutrient cycling through its abundant leaf litter and aids in carbon sequestration. Commonly found in mixed forests, it strengthens ecological resilience and is widely used in reforestation and conservation programs across tropical regions.



Bamboo: The Green Gold

Scientific Name: Bambusa vulgaris | *Family:* Poaceae | *Kannada Name:* Bidiru (ಬಿದಿರು)

Biological Significance: Technically a giant grass, bamboo is the world's fastest-growing plant and a superior carbon sink, releasing 35% more oxygen than most trees. Its dense, interlaced rhizome system is a powerful tool for soil conservation, binding earth to prevent erosion and landslides. Bamboo is also known for its rare "gregarious flowering" cycle, which provides a massive nutrient surge to forest ecosystems.

Medicinal Significance: Bamboo is rich in silica, essential for bone and skin health. In Ayurveda, "Tabasheer" (silica from joints) is used to treat respiratory and digestive issues. The leaves are packed with antioxidants, used in teas to detoxify and regulate blood pressure. In Karnataka, young shoots are a seasonal delicacy, prized for boosting immunity and providing essential minerals.



Banana: The Plant of Sustenance and Growth

Scientific Name: Musa paradisiaca | *Family:* Musaceae | *Kannada Name:* Bale (ಬಾಳೆ)

Biological Significance: This fast-growing plant plays an important role in tropical ecosystems. Its extensive root system helps bind the soil and prevent erosion. The plant improves soil fertility by adding organic matter through its large leaves. These leaves also provide shade and create a favorable environment for other plants and organisms. Because of these qualities, it supports biodiversity and is widely used in sustainable farming practices.

Medicinal Significance: Bananas are rich in potassium, vitamins, and dietary fiber, making them highly nutritious. They help improve digestion and regulate blood pressure. The fruit provides quick energy and is easy to digest. Traditionally, different parts of the plant have been used to support digestive health. Regular consumption helps maintain overall well-being and vitality.



Banyan Tree: The Keystone Giant

Scientific Name: Ficus benghalensis | *Family:* Moraceae | *Kannada Name:* Alaada Mara (ಆಲದ ಮರ)

Ecological Significance: The Banyan is a keystone species, meaning entire ecosystems rely on it for survival. Its massive canopy provides shelter for hundreds of bird and mammal species, while its figs offer a year-round food supply. Biologically, its aerial roots stabilize the ground, preventing massive soil erosion and aiding in groundwater recharge. It is one of the world's most significant carbon sinks, sequestering enormous amounts of CO₂. It represents the ultimate symbol of long-term ecological sustainability and climate resilience.



Beach Cabbage: The Coastal Protector Plant

Scientific Name: Scaevola taccada | *Family:* Goodeniaceae | *Kannada Name:* Thoppalu Soppu (ತೊಪ್ಪಲು ಸೊಪ್ಪು)

Ecological Significance: This coastal shrub plays a crucial role in stabilizing sand dunes and preventing coastal erosion through its extensive root system. It thrives in saline and harsh coastal environments, supporting biodiversity by providing shelter for small organisms. The plant acts as a natural barrier against strong winds and waves, helping protect shorelines. Its resilience makes it essential for coastal ecosystem conservation and sustainable coastal management practices.



Betel Leaf: The Leaf of Tradition and Healing

Scientific Name: Piper betle | *Family:* Piperaceae | *Kannada Name:* Vilyadele (ವಿಲ್ಯಾದೆಲೆ)

Biological Significance: This perennial climber thrives in warm and humid conditions and is commonly cultivated in shaded agroforestry systems. It supports biodiversity and contributes to sustainable cultivation practices, often grown alongside other crops in mixed farming systems.

Medicinal Significance: Betel leaves possess antimicrobial, anti-inflammatory, and digestive properties. Traditionally used in Ayurveda, they help improve digestion, maintain oral hygiene, and are also used in remedies for cough, cold, and minor infections.



Bhadraksha: The Hardy Restoration Tree

Scientific Name: Ailanthus excelsa | *Family:* Simaroubaceae | *Kannada Name:* Bhadraksha (ಭದ್ರಾಕ್ಷ)

Ecological Significance: This fast-growing tree is well suited for afforestation and ecological restoration, especially in dry, degraded areas. Its deep root system stabilizes soil and prevents erosion, while its adaptability to harsh conditions ensures survival in arid regions. It provides habitat for birds and insects, supporting biodiversity. Bhadraksha is commonly planted in wastelands and roadside areas, contributing to green cover, improving soil quality, and promoting sustainable land management practices.



Bitterleaf: The Ecological Detoxifier

Scientific name: Vernonia amygdalina | *Family:* Asteraceae | *Kannada name:* Onagane soppu (ಒಣಗಣೆ ಸೊಪ್ಪು)

Ecological significance: Bitterleaf is a biological pioneer that thrives in degraded soils, playing a vital role in soil restoration by increasing organic matter. Biologically, it serves as a natural bio-pesticide, protecting nearby crops from fungal and bacterial infections without the need for synthetic chemicals. It is an efficient carbon sequester, storing carbon in its woody stems. medicinally, it is known as a powerful anti-diabetic and liver detoxifier, making it an essential plant for both ecological health and community wellness.



Black - Honey Shrub: The Shrub of Traditional Healing

Scientific Name: Phyllanthus reticulatus | *Family:* Phyllanthaceae | *Kannada Name:* Kari Nelli (ಕರಿ ನೆಲ್ಲಿ)

Biological Significance: This hardy shrub grows well in tropical climates and contributes to biodiversity by supporting birds and insects. It is often found in natural and semi-wild habitats, helping maintain ecological balance and soil stability.

Medicinal Significance: Known for its medicinal properties, it is traditionally used to treat digestive issues, inflammation, and liver-related conditions. It contains bioactive compounds with antioxidant and antimicrobial benefits, supporting overall health.



Black Vitex: The Protective Medicinal Shrub

Scientific Name: Vitex negundo | *Family:* Lamiaceae | *Kannada Name:* Nirgundi (ನಿರ್ಗುಂಡಿ)

Ecological Significance: Black vitex is a hardy shrub that thrives in diverse environmental conditions and plays a key role in supporting biodiversity. It attracts pollinators and beneficial insects, contributing to ecological balance. The plant is often used in hedges and as a natural barrier, helping prevent soil erosion and land degradation. Its resilience to drought and poor soil conditions makes it valuable in ecological restoration and sustainable landscaping, especially in semi-arid and rural environments.



Blue Butterfly Bush: The Nectar Specialist

Scientific Name: Rotheca myricoides | *Family:* Lamiaceae | *Kannada Name:* Butterfly Bush (ಬಟರ್‌ಫ್ಲೈ ಬುಷ್)

Ecological Significance: This shrub is a specialized habitat provider for native butterflies, specifically designed to support their life cycles. Its unique flower structure helps support long-tongued pollinators. Ecologically, it acts as a hardy hedge that prevents soil wind erosion in open gardens. Biologically, it is a fast-growing species that promotes rapid biomass accumulation and improves soil structure as its leaves decay. Its presence in a garden ensures a vibrant, active ecosystem that supports the health of the local food web.



Boston Fern: The Ancient Filtrator

Scientific Name: Nephrolepis Exaltata | *Family:* Nephrolepidaceae | *Kannada Name:* Boston Fern (ಬಾಸ್ಪನ್ ಫರ್ನ್)

Ecological significance: The Boston Fern is a master of forest floor stabilisation. It creates a dense, moisture-trapping mulch with its fronds, protecting soil from drying out and encouraging beneficial fungi. Biologically, it is one of the best plants for removing formaldehyde and heavy metals through its roots. It acts as a natural humidity regulator, pumping moisture into the air to prevent "sick building syndrome." Its ability to reproduce via spores allows it to colonise damp areas quickly, playing a key role in natural water purification and soil cooling.



Cala Bur: The Wild Berry Healer

Scientific Name: Muntingia calabura | *Family:* Muntingiaceae | *Kannada Name:* Singapore Cherry/Jamaican Cherry (commonly referred)

Biological Significance: Cala Bur is a fast-growing tree that adapts easily to various soils and conditions. It helps prevent soil erosion and supports biodiversity by providing fruits for birds and small animals.

Medicinal Significance: Its leaves and fruits have antioxidant and anti-inflammatory properties. Traditionally, they are used to relieve headaches, cold symptoms, and minor infections, making the plant useful in folk medicine.



Cannonball Tree: The Sacred Blooming Giant

Scientific Name: Couroupita guianensis | *Family:* Lecythidaceae | *Kannada Name:* Nagalinga Mara (ನಾಗಲಿಂಗಮರ)

Biological Significance: The Cannonball Tree thrives in tropical climates and supports biodiversity by attracting pollinators, such as bees and other insects, with its fragrant flowers. Its large canopy also provides shade and contributes to the surrounding microclimate.

Medicinal Significance: Various parts of the tree are used in traditional medicine for their antimicrobial and anti-inflammatory properties. They are believed to help treat skin infections, wounds, and certain respiratory issues.



Canthium oligocarpum: The Native Habitat Shrub

Scientific Name: Canthium oligocarpum | *Family:* Rubiaceae | *Kannada Name:* Kaare (ಕಾರೆ)

Ecological Significance: This native shrub grows in forest and dryland ecosystems, supporting biodiversity by providing shelter and food for birds and insects. It contributes to soil conservation and helps prevent erosion in natural habitats. Its adaptability to local environmental conditions makes it valuable in ecological restoration projects. The plant plays a role in maintaining ecological balance and sustaining biodiversity in semi-arid and forested regions.



Cocoa Tree: The Tropical Medicinal Resource

Scientific Name: Theobroma cacao | *Family:* Malvaceae | *Kannada Name:* Cocoa (ಕೋಕೋ)

Biological Significance: Cocoa is a shade-loving evergreen tree that thrives in tropical climates and supports biodiversity by providing habitat for insects and small organisms. Its flowers are pollinated by tiny midges, showing its role in maintaining ecological interactions. The tree contributes to soil fertility through leaf litter and is widely grown in agroforestry systems, promoting sustainable cultivation and maintaining plant diversity.

Medicinal Significance: Cocoa beans are rich in antioxidants such as flavonoids, which support heart health and improve blood circulation. They help reduce stress, enhance mood, and provide energy. Traditionally, cocoa is also known to support brain function and has anti-inflammatory properties that contribute to overall well-being.



The Coconut Tree: The Tree of Life

Scientific Name: Cocos nucifera | *Family:* Arecaceae | *Kannada Name:* Tengina Mara (ತೆಂಗಿನ ಮರ)

Biological Significance: Known as the "Prince of Palms," the coconut tree is a coastal survivor. Its buoyant, salt-resistant seeds travel oceans to colonize new shores, while its extensive root system prevents beach erosion. It serves as a vital "carbon sink," stabilizing sandy ecosystems and providing habitats for diverse tropical fauna.

Medicinal Significance: Revered as Kalpavriksha, it offers total utility. The water is a natural electrolyte for rehydration, while the oil is rich in antimicrobial lauric acid, used in Ayurveda for skin and hair health. Root and flower extracts are traditionally used in Karnataka to treat fevers and digestive issues, proving its status as a complete natural pharmacy.



Conker Berry: The Resilient Shrub of the Wild

Scientific Name: Carissa spinarum | *Family:* Apocynaceae | *Kannada Name:* Karonda (ಕರೊಂಡೆ)

Ecological Significance: This hardy shrub thrives in dry and semi-arid environments, playing an important role in soil stabilization and erosion control. It provides food and shelter for birds and small animals, thereby supporting biodiversity. Often used as a natural fence or hedge, it contributes to sustainable land management. Its adaptability to harsh climatic conditions makes it a valuable species in maintaining ecological balance and restoring degraded lands.



Crepe Jasmine: The Ornamental Healing Shrub

Scientific Name: Tabernaemontana divaricata | *Family:* Apocynaceae | *Kannada Name:* Nandi Battalu (ನಂದಿ ಬಟ್ಟಲು)

Biological Significance: Crepe jasmine is an evergreen shrub that thrives in tropical regions and contributes to biodiversity by attracting pollinators like bees and butterflies. Its dense foliage provides shelter for small organisms and helps maintain greenery in urban and garden ecosystems. It is widely used in landscaping due to its adaptability and low maintenance requirements.

Medicinal Significance: This plant is traditionally used in herbal medicine for its anti-inflammatory and analgesic properties. It is used to treat wounds, skin diseases, and eye infections. The latex and leaves are known for their healing effects and are valued in Ayurvedic practices.



Croton: The Living Bio-Indicator

Scientific Name: Codiaeum Variegatum | *Family:* Euphorbiaceae | *Kannada Name:* Croton (ಕ್ರೋಟನ್)

Ecological significance: Crotons are vital bio-indicators of light intensity; their variegated foliage signals the health of the local light environment. In a garden, their dense, leathery leaves provide a "buffer zone" that reduces noise pollution and traps heavy particulate matter. Biologically, they are very hardy, providing a consistent year-round habitat for beneficial garden spiders and insects. Their ability to thrive in poor soil while maintaining a lush canopy makes them excellent for land reclamation projects, helping to rebuild organic matter and restore local greenery.



Curry Leaves: The Aromatic Healer

Scientific Name: Murraya koenigii | *Family:* Rutaceae | *Kannada Name:* Karibevu (ಕರಿಬೇವು)

Biological Significance: This small evergreen tree plays an important role in maintaining biodiversity by attracting pollinators such as bees and butterflies. It thrives in tropical and subtropical climates and adapts well to different soil conditions. Its presence in home gardens and farms supports ecological balance and promotes sustainable agricultural practices.

Medicinal Significance: Rich in antioxidants, vitamins A, B, and C, and iron, curry leaves aid digestion, improve hair and skin health, and help regulate blood sugar levels. Traditionally used in Ayurveda, they are known to boost immunity, support liver function, and enhance overall wellness.



Custard Apple: The Fruit of Sweet Nourishment

Scientific Name: Annona squamosa | *Family:* Annonaceae | *Kannada Name:* Seethaphala (ಸೀತಾಫಲ)

Biological Significance: This small deciduous tree grows well in dry and tropical climates and adapts easily to different conditions. It supports biodiversity by attracting pollinators like bees and butterflies, which help maintain ecological balance. Its root system helps hold the soil firmly, reducing erosion and supporting soil conservation. Because of its adaptability, it is commonly used in sustainable farming and agroforestry systems, where it contributes to a healthier environment.

Medicinal Significance: Custard apple is rich in vitamins, minerals, and antioxidants, making it highly nutritious. It helps boost immunity and improves digestion. The fruit provides energy and supports overall health. Traditionally, its leaves and seeds are used for medicinal purposes, especially for treating skin conditions. Regular use helps maintain well-being and promotes a healthy lifestyle.



Dragon Tail: The Vertical Oxygenator

Scientific Name: Epipremnum pinnatum | *Family:* Araceae | *Kannada Name:* Dragon Tail (ಡ್ರಾಗನ್ ಟೈಲ್)

Ecological Significance: The Dragon Tail is an expert at vertical greening, maximising oxygen production in tight urban spaces by climbing structures. It is a high-performance phytoremediator that removes volatile organic compounds, such as formaldehyde, from the air. Biologically, its large, fenestrated (holed) leaves are adapted to let light reach lower forest levels, supporting understory growth. It also aids in humidity regulation, releasing moisture through transpiration to cool surrounding microclimates and reduce the Urban Heat Island effect.



Fig: The Nourishing Sacred Fruit

Scientific Name: Ficus carica | *Family:* Moraceae | *Kannada Name:* Anjeer (ಅಂಜೂರ)

Biological Significance: Fig trees adapt well to various climates and help maintain soil health. Their fruits provide an important food source for birds and animals, supporting biodiversity.

Medicinal Significance: Figs are rich in fiber, vitamins, and antioxidants, aiding digestion and improving gut health. They also help regulate blood sugar and support heart health, making them valuable in traditional and modern diets.



Ginger: The Root of Wellness

Scientific Name: Zingiber officinale | *Family:* Zingiberaceae | *Kannada Name:* Shunti (ಶುಂಠಿ)

Biological Significance: This rhizomatous plant grows well in warm, moist climates and is widely cultivated in sustainable farming systems. It improves soil structure and is often included in crop rotation, helping maintain soil fertility and agricultural productivity.

Medicinal Significance: Ginger is well known for its anti-inflammatory, antioxidant, and digestive properties. It helps relieve nausea, improve digestion, reduce inflammation, and boost immunity. It is widely used in traditional medicine, home remedies, and daily diets.



Gotu Kola: The Herb of Longevity

Scientific Name: Centella asiatica | *Family:* Apiaceae | *Kannada Name:* Ondelaga (ಒಂದೆಲಗ)

Biological Significance: This perennial wetland herb acts as a vital "ecosystem engineer." Its creeping stolons form a living carpet that stabilizes marshy soil and prevents erosion, while its root system naturally filters and purifies its aquatic habitat.

Medicinal Significance: Revered as a "Brain Tonic" in Ayurveda, Gotu Kola contains triterpenoids that enhance memory, focus, and clarity. It is a powerhouse for dermal repair, stimulating collagen to heal wounds and improve circulation. In Karnataka, it is traditionally consumed as Ondelaga Tambuli to promote lifelong vitality and cognitive health.



Great Woolly Malayan Lilac: The Pollinator Haven

Scientific Name: Callicarpa tomentosa | *Family:* Lamiaceae | *Kannada Name:* Nayiteke (ನಾಯಿತೇಕ್ಕಿ)

Ecological Significance: This species is crucial for biodiversity conservation, as its dense clusters of flowers provide a consistent nectar source for bees and butterflies. The "woolly" texture of its leaves acts as a natural particulate filter, trapping dust and improving air quality in forest edges. Biologically, it supports seed dispersal through local bird populations that feed on its vibrant berries. In traditional medicine, it is used to treat skin conditions and inflammation, representing a balance between aesthetic beauty and functional ecology.



Hibiscus: The Flower of Beauty and Healing

Scientific Name: Hibiscus rosa-sinensis | *Family:* Malvaceae | *Kannada Name:* Dasavala (ದಾಸವಾಳ)

Biological Significance: Hibiscus is a hardy flowering plant that grows well in tropical climates. It attracts pollinators like bees and butterflies, supporting local biodiversity and enhancing garden ecosystems.

Medicinal Significance: Hibiscus is rich in antioxidants and is widely used to improve hair and skin health. It also helps regulate blood pressure, aid digestion, and is commonly consumed as herbal tea for overall wellness.



Hog Plum: The Hardy Medicinal Tree

Scientific Name: Spondias mombin | *Family:* Anacardiaceae | *Kannada Name:* Amate (ಅಮಟೆ)

Biological Significance: Hog plum is a tropical tree that grows well in diverse environmental conditions and supports biodiversity by providing food and shelter for birds and animals. Its presence contributes to maintaining plant diversity and soil fertility through natural processes.

Medicinal Significance: The fruit and leaves are used in traditional medicine for their antimicrobial and anti-inflammatory properties. It aids digestion, treats infections, and is used for wound healing. The plant is also known to support overall health and immunity.



Insulin Plant: The Natural Sugar Regulator

Scientific Name: Costus igneus | *Family:* Costaceae | *Kannada Name:* Insulin Soppu

Biological Significance: This ornamental and medicinal plant thrives in warm, humid climates and grows well in shaded or semi-shaded conditions. It contributes to garden biodiversity and is commonly cultivated in herbal gardens, thereby supporting sustainable conservation of medicinal plants.

Medicinal Significance: The leaves of the insulin plant are traditionally consumed for their ability to help regulate blood sugar levels. It contains bioactive compounds with antioxidant properties that support metabolic health and overall well-being, especially for individuals managing diabetes.



Jackfruit: The Bountiful Tree of Nourishment

Scientific Name: Artocarpus heterophyllus | *Family:* Moraceae | *Kannada Name:* Halasu (ಹಲಸು)

Biological Significance: This large evergreen tree plays an important role in supporting biodiversity. It provides food and shelter for birds, insects, and many animals. Its dense canopy creates shade and improves the surrounding environment. The tree has a strong, extensive root system that helps hold the soil in place and prevents erosion. It is well-suited for tropical agroforestry systems, where it supports sustainable land use. Overall, it helps increase green cover and maintain ecological balance.

Medicinal Significance: Jackfruit is rich in vitamins, antioxidants, and dietary fiber, making it highly nutritious. It helps improve digestion and supports a strong immune system. The fruit also provides long-lasting energy and supports overall health. Traditionally, different parts of the plant, including leaves and seeds, have been used in natural remedies. Regular consumption can help maintain vitality and promote general well-being.



Jamun: The Fruit of Vital Health

Scientific Name: Syzygium cumini | *Family:* Myrtaceae | *Kannada Name:* Nerale (ನೆರಳೆ)

Biological Significance: This hardy evergreen tree plays an important role in supporting biodiversity. It provides food and shelter to birds, insects, and other small organisms. Its dense canopy offers shade and helps improve the surrounding environment. The tree has a deep root system that holds the soil firmly, preventing erosion. Because of these qualities, it is widely used in reforestation and sustainable land management practices.

Medicinal Significance: Jamun is rich in antioxidants and iron, making it beneficial for overall health. It is traditionally used to help regulate blood sugar levels and support digestion. The fruit and seeds are valued in Ayurveda for their medicinal properties. They help boost immunity and improve metabolic health. Regular use can support overall well-being and vitality.



Karanj: The Tree of Sustainable Healing

Scientific Name: Pongamia pinnata | *Family:* Fabaceae | *Kannada Name:* Honge (ಹೊಂಗೆ)

Biological Significance: This hardy tree plays an important role in improving soil health and supporting ecosystems. As a nitrogen-fixing plant, it naturally increases soil fertility and helps other plants grow better. It can survive in poor and degraded soils, making it useful for reforestation and agroforestry. Its dense canopy provides shade and improves the local environment. The strong root system helps hold the soil firmly, reducing erosion and supporting land restoration.

Medicinal Significance: Karanj is known for its anti-inflammatory and antimicrobial properties. It is commonly used in traditional medicine to treat skin problems and heal wounds. The oil extracted from the seeds is widely used in Ayurveda for its healing benefits. It is also used as a natural pesticide, making it useful in both healthcare and agriculture.



Lemongrass: The Fragrant Grass of Wellness

Scientific Name: Cymbopogon citratus | *Family:* Poaceae | *Kannada Name:* Majjige Hullu (ಮಜ್ಜಿಗೆ ಹುಲ್ಲು)

Biological Significance: This perennial aromatic grass has a strong root system that helps prevent soil erosion and improves soil structure. It grows well in warm climates and is widely used in sustainable agriculture and landscaping due to its low maintenance and resilience. It also acts as a natural pest repellent, supporting eco-friendly farming.

Medicinal Significance: Lemongrass is known for its antimicrobial, anti-inflammatory, and calming properties. It aids digestion, reduces stress, and supports immunity. Commonly used in herbal teas and traditional medicine, it helps detoxify the body and promotes overall health and relaxation.



Malabar Spinach: The Climbing Green of Nutrition

Scientific Name: Basella alba | *Family:* Basellaceae | *Kannada Name:* Basale Soppu (ಬಸಲೆ ಸೊಪ್ಪು)

Biological Significance: This fast-growing, leafy climber supports vertical gardening and enhances green cover in limited spaces. It thrives in tropical climates and contributes to sustainable agriculture by improving soil fertility and promoting efficient land use.

Medicinal Significance: Rich in iron, calcium, vitamins, and antioxidants, Malabar spinach supports digestion, boosts immunity, and promotes healthy skin. It is widely consumed as a nutritious leafy vegetable and plays an important role in balanced diets.



The Mango Tree: The King of Fruits

Scientific Name: Mangifera indica | *Family:* Anacardiaceae | *Kannada Name:* Mavina Mara (ಮಾವಿನ ಮರ)

Biological Significance: A majestic, long-lived evergreen, the mango tree is a cornerstone of tropical biodiversity. It serves as a vital "keystone species," providing dense canopy shade and supporting hundreds of insect and bird species. Its deep taproot system prevents soil erosion and supports groundwater retention, while its prolific flowering attracts essential pollinators like honeybees.

Medicinal Significance: In Ayurveda, every part of the tree is therapeutic. The fruit is a powerhouse of Vitamins A and C, boosting immunity. The leaves have potent anti-diabetic properties, often used in traditional teas to manage blood sugar. In Karnataka, mango bark and seed kernels are traditionally used to treat digestive disorders and skin inflammations, making it a symbol of both health and abundance.



Manoranjitham: The Fragrant Ornamental Tree

Scientific Name: Artabotrys hexapetalus | *Family:* Annonaceae | *Kannada Name:* Manoranjini (ಮನೋರಂಜಿನಿ)

Biological Significance: Manoranjitham is a woody climber or small tree that thrives in tropical climates and supports biodiversity by attracting pollinators such as bees and butterflies with its highly fragrant flowers. It adapts well to gardens and natural habitats, contributing to greenery and ecological interactions. The plant provides shelter for small organisms and helps maintain plant diversity in cultivated and semi-natural ecosystems.

Medicinal Significance: Traditionally valued for its soothing fragrance, Manoranjitham is used in herbal medicine for its calming and stress-relieving properties. The flowers are used in aromatherapy, while different parts of the plant are believed to have antimicrobial and anti-inflammatory benefits, supporting skin health and overall well-being.



Mint: The Refreshing Herb of Vitality

Scientific Name: Mentha spp. | *Family:* Lamiaceae | *Kannada Name:* Pudina (ಪುದೀನಾ)

Biological Significance: Mint is a fast-growing perennial herb that spreads efficiently, forming dense ground cover that helps reduce soil erosion and retain moisture. It attracts pollinators and beneficial insects, making it valuable in sustainable gardening systems and kitchen gardens.

Medicinal Significance: Rich in menthol, vitamins, and antioxidants, mint aids digestion, soothes the stomach, and relieves nausea. It provides a cooling effect, helps in managing headaches and respiratory discomfort, and is widely used in traditional remedies and culinary preparations.



Money Plant: The Oxygen Adaptor

Scientific Name: Epipremnum Aureum | *Family:* Araceae | *Kannada Name:* Hana Gida (ಹಣದ ಗಿಡ)

Ecological significance: The money plant is an aggressive oxygenator that thrives in low-light, ensuring that shaded areas remain oxygen-rich. It is an expert at neutralizing VOCs and mitigating electronic smog. Its rapid climbing growth creates "vertical forests," maximizing green surface area in urban spaces. Biologically, it is a phytoremediator that can grow in water alone, filtering nitrates from aquatic systems. Its adaptability makes it a resilient "first-responder" in environmental restoration, covering bare surfaces to prevent heat absorption and provide shade.



Moringa: The Miracle Tree of Nutrition

Scientific Name: Moringa oleifera | *Family:* Moringaceae | *Kannada Name:* Nugge (ನುಗ್ಗೆ)

Biological Significance: This fast-growing, drought-resistant tree thrives in arid regions and adapts to poor soils. It improves soil fertility through organic matter addition and helps prevent soil erosion with its deep roots. Moringa is widely used in agroforestry and supports biodiversity by providing shade and habitat.

Medicinal Significance: Moringa is rich in vitamins, minerals, antioxidants, and essential amino acids. It helps boost immunity, regulate blood sugar levels, and improve digestion. Traditionally used in Ayurveda, it supports heart health and enhances overall nutrition and well-being.



The Mulberry Tree: The Silk Road Foundation

Scientific Name: Morus indica | *Family:* Moraceae | *Kannada Name:* Uppu Nerale (ಉಪ್ಪು ನೇರಲೆ)

Biological Significance: The mulberry tree is the primary food source for the Silkworm (Bombyx mori), making it the backbone of the sericulture industry in Karnataka. It is a fast-growing, deciduous tree that improves soil quality through nitrogen cycling and provides dense cover for urban bird populations. Its sweet, aggregate fruits are essential for local biodiversity and seed dispersal.

Medicinal Significance: In traditional medicine, its leaves are prized for their anti-diabetic properties, helping to regulate blood sugar levels. The fruits are rich in antioxidants, iron, and Vitamin C, acting as a natural immune booster and blood purifier. In Ayurveda, bark extracts are used to treat respiratory ailments and internal parasites, making it a vital plant for both industry and health.



Neem: The Village Pharmacy Tree

Scientific Name: Azadirachta indica | *Family:* Meliaceae | *Kannada Name:* Bevu (ಬೇವು)

Biological Significance: Neem is a hardy tree that thrives in dry conditions and helps improve soil quality. It supports biodiversity and acts as a natural pest repellent, contributing to ecological balance.

Medicinal Significance: Neem has strong antibacterial, antifungal, and anti-inflammatory properties. It is widely used in traditional medicine for skin care, treating infections, improving oral health, and boosting immunity.



Orange Trumpet Vine: The Cooling Climber

Scientific Name: Pyrostegia venusta | *Family:* Bignoniaceae | *Kannada Name:* Trumpet Vine (ಟ್ರಂಪೆಟ್ ವೈನ್)

Ecological Significance: This vigorous climber is a master of thermal regulation, covering walls and rooftops to naturally cool buildings and reduce energy consumption. Biologically, its bright orange flowers are a primary food source for hummingbirds and sunbirds during winter months when other nectar is scarce. Ecologically, it provides dense cover that serves as a refuge for small garden animals. Its ability to rapidly colonise bare surfaces makes it an excellent tool for urban regreening and enhancing aesthetic biodiversity in concrete environments.



Orchid Tree / Butterfly Tree: The Graceful Ornamental Tree

Scientific Name: Bauhinia variegata | *Family:* Fabaceae | *Kannada Name:* Kanchana (ಕಂಚನ)

Ecological Significance: This ornamental tree plays an important role in enhancing biodiversity by attracting pollinators such as bees and butterflies with its nectar-rich flowers. Its broad canopy provides shade, moderates local microclimates, and contributes to carbon sequestration. The leaf litter improves soil fertility and supports nutrient cycling. Adaptable to varied environmental conditions, it is widely used in afforestation, urban landscaping, and roadside plantations, helping improve air quality, increase green cover, and maintain ecological balance in tropical and subtropical regions.



Oxalis: The Tangy Herb of Balance

Scientific Name: Oxalis spp. | *Family:* Oxalidaceae | *Kannada Name:* Puliyaarasoppu (ಪುಳಿಯರಸೊಪ್ಪು)

Biological Significance: This small herb grows quickly and spreads across the ground, acting as a natural soil cover that helps prevent erosion and retain moisture. It thrives in diverse environments and helps maintain soil health in gardens and open spaces.

Medicinal Significance: Oxalis is rich in vitamin C and possesses cooling and refreshing properties. Traditionally, it is used to aid digestion, reduce thirst, and treat minor stomach ailments, though it should be consumed in moderation due to its oxalic acid content.



Peace Lily: The Humidity Harmonizer

Scientific Name: Spathiphyllum | *Family:* Araceae | *Kannada Name:* Shanthiya Hoovu (ಶಾಂತಿಯ ಹೂವು)

Ecological Significance: Peace Lilies act as biological air-scrubbers by absorbing airborne mold spores through their leaves and breaking down harmful gases. Biologically, they function as high-efficiency transpirers, pumping moisture into the air to balance dry indoor climates. This humidity regulation prevents the spread of dust mites and allergens. In their root zone, they facilitate a symbiotic relationship with microbes that neutralize complex chemicals like acetone, making them essential for maintaining "living buildings" and a healthy, breathable atmosphere.



Peepal: The Sacred Life Giver

Scientific Name: Ficus religiosa | *Family:* Moraceae | *Kannada Name:* Arali Mara (ಅರಳಿಮರ)

Biological Significance: Peepal is a long-living tree that supports biodiversity by providing shelter and food for birds, insects, and animals. Its extensive root system helps prevent soil erosion and contributes to ecological stability.

Medicinal Significance: Peepal has anti-inflammatory and antimicrobial properties. Its leaves, bark, and fruits are traditionally used to treat respiratory issues, digestive problems, and skin ailments, making it an important component of Ayurvedic medicine.



Pomegranate: The Fruit of Longevity and Vitality

Scientific Name: Punica granatum | *Family:* Lythraceae | *Kannada Name:* Dalimba (ದಾಳಿಂಬ)

Biological Significance: This drought-tolerant shrub plays an important role in supporting sustainable ecosystems. It can grow well in dry, arid conditions, making it suitable for areas with limited water availability. Its root system helps conserve soil and prevent erosion. The plant produces flowers that attract pollinators, such as bees, thereby supporting biodiversity and improving ecological balance. It is commonly grown in cultivated landscapes for its resilience and environmental benefits.

Medicinal Significance: Pomegranate is rich in antioxidants, vitamins, and anti-inflammatory compounds, making it highly beneficial for health. It supports heart health and helps boost the immune system. The fruit also aids digestion and improves overall body function. In Ayurveda, it is traditionally used to enhance vitality and protect against various diseases. Regular consumption promotes general well-being and strengthens the body.



Rajamalli: The Royal Flowering Shrub

Scientific Name: Tabernaemontana divaricata (double variety) | *Family:* Apocynaceae | *Kannada Name:* Rajamalli (ರಾಜಮಲ್ಲಿಗೆ)

Biological Significance: Rajamalli is an evergreen ornamental shrub that thrives in tropical climates and is widely grown in gardens. Its fragrant flowers attract pollinators like bees and butterflies, supporting biodiversity. The dense foliage provides shelter for small organisms and helps maintain green spaces. It adapts well to different soil conditions and requires minimal care, making it suitable for sustainable gardening and landscaping.

Medicinal Significance: Rajamalli is known for its medicinal properties, including anti-inflammatory and analgesic effects. It is traditionally used to treat wounds, skin conditions, and eye ailments. The plant also has calming properties and is valued in herbal medicine for promoting overall well-being.



Rose Apple: The Riparian Guardian

Scientific Name: Syzygium jambos | *Family:* Myrtaceae | *Kannada Name:* Pannerale (ಪನ್ನೇರಲೆ)

Ecological Significance: The Rose Apple is vital for riparian stabilization, as its deep roots prevent soil erosion along riverbanks. Biologically, it supports tropical biodiversity, providing nectar and fruit for bats, birds, and bees. Its dense, evergreen canopy cools the micro-climate and aids groundwater recharge, making it a key player in wetland health and carbon sequestration.

Medicinal Significance: In Ayurveda, the seeds and bark are prized for anti-diabetic properties. The leaves treat fevers and inflammation, while the fruit is a Vitamin C-rich immune booster. Traditionally, in Karnataka, bark decoctions are used to treat digestive and respiratory issues, serving as a "living pharmacy" for the community.



Rubber Tree: The Resilient Evergreen Plant

Scientific Name: Ficus elastica | *Family:* Moraceae | *Kannada Name:* Rubber Mara (ರಬ್ಬರ್ ಮರ)

Biological Significance: This evergreen tree is well adapted to tropical environments and contributes to biodiversity by providing habitat for birds and insects. Its broad leaves enhance photosynthesis and help improve air quality, while its strong root system supports soil stability. Commonly grown as an ornamental and indoor plant, it plays a role in maintaining green cover and supporting ecological balance in both natural and urban settings.

Medicinal Significance: Traditionally, the latex and leaves of Ficus elastica are used for their antimicrobial and anti-inflammatory properties. They are applied in treating wounds, skin conditions, and minor infections. The plant is also believed to support overall healing and has been used in folk medicine for maintaining general health and wellness.



Salayi / Mowai: The Forest Stability Tree

Scientific Name: Elaeodendron glaucum | *Family:* Celastraceae | *Kannada Name:* Salayi / Mowai (ಸಲಾಯಿ / ಮೊವಾಯಿ)

Ecological Significance: This tree is an integral part of forest ecosystems, contributing to biodiversity by providing habitat and food for various organisms. It plays a role in maintaining soil fertility through leaf litter decomposition and supports nutrient cycling. The tree helps stabilize soil and maintain ecological balance in natural habitats. It is significant in conservation efforts and sustainable forestry, ensuring long-term environmental health and resilience of forest ecosystems



Sapota: The Sweet Fruit of Vitality

Scientific Name: Manilkara zapota | *Family:* Sapotaceae | *Kannada Name:* Sapota (ಸಪೋಟ)

Biological Significance: This evergreen tropical tree plays an important role in maintaining ecological balance. Its dense foliage provides shade and creates a suitable habitat for birds and insects. The tree supports local biodiversity by offering food and shelter. Its deep root system helps bind the soil firmly, reducing the risk of erosion. Because of these qualities, it is often included in agroforestry systems and sustainable farming practices.

Medicinal Significance: Sapota is rich in vitamins, antioxidants, and dietary fibre, making it beneficial for health. It helps improve digestion and supports a healthy immune system. The fruit is also known to promote healthy skin. Traditionally, it has been used to relieve constipation and provide quick energy. Regular consumption can help maintain overall vitality and well-being.



Sarvasugandhi: The Aromatic Spice Plant

Scientific Name: Pimenta dioica | *Family:* Myrtaceae | *Kannada Name:* Sarvasugandhi (ಸರ್ವಸುಗಂಧಿ)

Biological Significance: This tropical evergreen plant thrives in warm climates and contributes to biodiversity by attracting pollinators such as bees with its aromatic flowers. It is commonly grown in kitchen gardens and home landscapes, enhancing green cover and supporting ecological interactions. Its dense foliage provides shelter for small organisms and helps retain soil moisture, making it suitable for sustainable gardening and diversified planting systems.

Medicinal Significance: Sarvasugandhi is rich in essential oils like eugenol, which possess antimicrobial, anti-inflammatory, and antioxidant properties. Traditionally, it is used to aid digestion, relieve toothache, and reduce muscle pain. It also supports respiratory health and boosts immunity, making it valuable in herbal medicine and natural remedies.



Schefflera: The Particulate Trapper

Scientific Name: Schefflera Arboricola | *Family:* Araliaceae | *Kannada Name:* Kade Gida (ಕಡೆ ಗಿಡ)

Ecological significance: The "umbrella" canopy of the Schefflera is biologically designed for particulate trapping. Its waxy leaves catch dust, soot, and smoke particles, preventing them from being inhaled. This makes it a vital "air-scrubber" for urban gardens. It also contributes to carbon sequestration, storing carbon in its woody stems as it grows. In the wild, its dense structure provides essential shelter for birds, while its flowers support pollinators. Acting as a windbreak helps protect smaller, more delicate plants from drying out in harsh gusts.



Senna Alata: The Biological Fungicide

Scientific Name: Senna alata | *Family:* Fabaceae | *Kannada Name:* Seemeye Akke (ಸೀಮೆಯೇ ಅಕ್ಕಿ)

Ecological Significance: Also known as the Candle Bush, this plant is a natural nitrogen fixer, enriching the soil with essential nutrients that benefit surrounding flora. Biologically, it possesses strong anti-microbial properties, acting as a natural guard against soil-borne pathogens. It is a vital plant for phytoremediation, as it can grow in metal-contaminated soils and help stabilize them. Medicinally, it is prized for treating fungal infections, making it a



Snake Plant: The Nocturnal Purifier

Scientific Name: Dracaena trifasciata | *Family:* Asparagaceae | *Kannada Name:* Haavu Gida (ಹಾವು ಗಿಡ)

Ecological Significance: The Snake Plant is an ecological powerhouse due to its Crassulacean Acid Metabolism (CAM). Unlike most plants, it absorbs CO₂ at night, acting as a nocturnal "carbon sink" to balance gas exchange in indoor ecosystems. It is a master phytoremediator, pulling toxins like benzene and formaldehyde from the air and neutralising them. Its extreme drought tolerance allows it to thrive in neglected environments, where it stabilises humidity and oxygen levels, acting as a resilient biological air-scrubber for urban spaces.



Snakeskin Fishtail Palm: The Biodiversity Pillar

Scientific Name: Caryota ophiopellis | *Family:* Arecaceae | *Kannada Name:* Fishtail Palm (ಫಿಶ್‌ಟೇಲ್ ಪಾಮ್)

Ecological Significance: This rare palm is essential for forest structure, providing high-level nesting sites and shade for understory plants. Its "snakeskin" trunk and fishtail leaves are biological adaptations that allow it to channel rainwater efficiently to its root system, helping to hydrate the soil. Ecologically, its flowering cycle provides a nutrient-rich food source for bats and civets, which are vital for seed dispersal. Its presence in a landscape indicates a mature, healthy ecosystem capable of supporting diverse wildlife.



Spider Plant: the Urban Air-Scrubber

Scientific Name: Chlorophytum Comosum | *Family:* Asparagaceae | *Kannada Name:* Gulle Gida (ಗುಳ್ಳೆ ಗಿಡ)

Ecological significance: The spider plant is a champion of urban air purification, specifically targeting volatile organic compounds (VOCs). Its method of easy propagation via runners allows it to quickly form a dense "green carpet" that prevents soil erosion and protects topsoil moisture. Biologically, it is highly efficient at processing nitrogen dioxide, mitigating "technological smog." By rapidly expanding its canopy, it creates a small-scale microclimate that supports beneficial soil microorganisms, turning stagnant corners into oxygen-rich biological habitats.



Swamp Mahogany: The Hardy Forest Guardian

Scientific Name: Eucalyptus robusta | *Family:* Myrtaceae | *Kannada Name:* Commonly called Eucalyptus mara

Biological Significance: Swamp Mahogany thrives in waterlogged, marshy soils, helping stabilize these ecosystems. Its strong root system prevents soil erosion, while its canopy supports biodiversity by providing habitat for birds, bees, and insects, and also helps regulate the local microclimate.

Medicinal Significance: Its leaves contain eucalyptol, which has antimicrobial and anti-inflammatory properties. It is commonly used to relieve cold, cough, and sinus issues, and its oil is applied for muscle pain and minor wounds, making it valuable in herbal medicine and aromatherapy.



Tamarind Tree: The Date of India

Scientific Name: Tamarindus indica | *Family:* Fabaceae | *Kannada Name:* Hunase Mara (ಹುಣಸೆ ಮರ)

Biological Significance: A massive, long-lived evergreen, the tamarind tree is a champion of arid-land survival. Its dense foliage provides vital shade in harsh climates, while its deep root system prevents soil erosion. Biologically, its fruit pulp is rich in tartaric acid, which acts as a natural preservative and defense against microbial decay.

Medicinal Significance: In Ayurveda, it is used as a digestive aid and a remedy for seasonal fevers. The pulp is a natural laxative, while the leaves and bark have potent anti-inflammatory properties used to treat joint pain and swelling. In Karnataka, Hunase is a culinary and medicinal staple, prized for its high Vitamin C content and antioxidant power.



Temple Tree / Frangipani: The Sacred Ornamental Tree

Scientific Name: Plumeria rubra | *Family:* Apocynaceae | *Kannada Name:* Deva Kanagile (ದೇವ ಕಣಗಿಲೆ)

Biological Significance: Temple tree is a small deciduous tree well-adapted to tropical climates, commonly found in temple gardens and landscapes. Its fragrant flowers attract pollinators such as bees, butterflies, and moths, supporting ecological interactions. The plant tolerates dry conditions and poor soils, contributing to greenery in harsh environments. Its branching structure provides shelter for small organisms and enhances biodiversity in urban and semi-natural ecosystems.

Medicinal Significance: Traditionally used in herbal medicine, the plant's different parts possess anti-inflammatory and antimicrobial properties. It is used to treat skin diseases, wounds, and digestive issues. The latex and flowers are also valued for their healing properties and are used in traditional remedies for maintaining overall health.



Tulsi: The Sacred Plant of Healing

Scientific Name: Ocimum tenuiflorum | *Family:* Lamiaceae | *Kannada Name:* Tulasi (ತುಳಸಿ)

Biological Significance: This aromatic medicinal shrub plays a crucial role in supporting biodiversity by attracting pollinators like bees, butterflies, and other beneficial insects. It thrives in tropical and subtropical climates and adapts well to different soil types. Widely grown in home gardens, Tulsi contributes to ecological balance and promotes sustainable and traditional gardening practices.

Medicinal Significance: Tulsi is renowned for its antimicrobial, anti-inflammatory, and adaptogenic properties. It helps boost immunity, relieve respiratory issues, reduce stress, and support heart health. Extensively used in Ayurveda, it is considered a powerful herb for maintaining overall physical and mental well-being.



Water Lettuce: The Floating Purifier Plant

Scientific Name: Pistia stratiotes | *Family:* Araceae | *Kannada Name:* Neer Sabbasige (ನೀರು ಕುಂಬಿ)

Biological Significance: This free-floating aquatic plant plays an important role in water ecosystems by absorbing excess nutrients and improving water quality. It provides shelter for small aquatic organisms and helps reduce algae growth. Its presence supports wetland biodiversity and contributes to natural water purification systems.

Medicinal Significance: Traditionally, water lettuce is used for its cooling and anti-inflammatory properties. It is used to treat skin conditions, wounds, and swelling. In herbal medicine, it is also used to support urinary health and relieve minor ailments.



SOURCES

The content presented in this catalog is primarily based on on-ground observation, fieldwork, and detailed documentation conducted at Visthar Eco Sanctuary. Each species has been carefully studied to understand its ecological, biological, and medicinal significance, ensuring that the information is both accurate and contextually relevant. This work reflects a blend of practical experience and academic understanding, making it authentic and grounded.

All efforts have been made to maintain the accuracy, clarity, and reliability of the information provided. The descriptions are developed through careful observation and interpretation rather than direct copying, ensuring originality in presentation. The images included in this catalog are a mix of original photographs and externally sourced visuals. Many images were captured during field visits, while a few were sourced from external platforms to enhance clarity and representation. **The credits for all sourced images remain with their respective owners**, and their use here is for educational and non-commercial purposes only.

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FEATURED AND HIGHLIGHT SPECIES

This section brings together selected plants from the Visthar campus that stand out for their ecological roles, medicinal value, cultural significance, and sensory presence. These species are not only important individually, but also contribute to the larger living system of Visthar—supporting biodiversity, shaping microclimates, and influencing how people experience the space. These highlighted species help us better understand the strong connection between biodiversity and human well-being.

Some species function as ecological keystone species, playing a major role in maintaining ecosystem balance. Trees like Banyan, Peepal, and Mango support a wide range of birds, insects, and animals by providing food and shelter. Their large canopies regulate temperature, while their roots help prevent soil erosion and improve groundwater recharge, making them essential for long-term environmental stability.

Another important group includes climate-resilient and restoration species such as Neem, Bamboo, Karanj, and Swamp Mahogany. These plants can survive in harsh conditions, such as drought or waterlogged soils, and are widely used in reforestation and sustainable land management. Bamboo, for example, grows rapidly and absorbs large amounts of carbon, while Neem acts as a natural pesticide, reducing the need for harmful chemicals. Karanj improves soil fertility through nitrogen fixation, making it valuable in agroforestry systems.

The catalog also highlights medicinal plants widely used in traditional healthcare systems such as Ayurveda. Species such as Tulsi, Aloe Vera, Amla, Ginger, and the Insulin Plant are known for their healing properties. They help boost immunity, improve digestion, regulate blood sugar, and treat common ailments, showing the importance of plant biodiversity in health and wellness.



FEATURED AND HIGHLIGHT SPECIES

In terms of food and nutrition, plants like Moringa, Banana, Jackfruit, Coconut, and Sapota play a key role. These species are rich in essential nutrients and are well-suited to tropical climates. Moringa is considered a “superfood” due to its high nutritional value, while Jackfruit is a high-yield crop that supports food security. Such plants are important for both livelihoods and sustainable diets.

The list also includes ornamental and indoor plants like Peace Lily, Snake Plant, Spider Plant, Areca Palm, and Anthurium. These plants improve indoor air quality by removing toxins and regulating humidity, while also enhancing aesthetic appeal and mental well-being in urban spaces.

Some species are notable for their unique ecological roles, such as Water Lettuce, which helps purify water bodies, and Senna Alata, known for its antifungal properties. Climbers like Money Plant and Dragon Tail contribute to vertical greening, making efficient use of limited space.

Overall, these highlighted species reflect the importance of plants in supporting ecosystems, human health, and sustainable development. They remind us of the need to conserve biodiversity and adopt practices that maintain harmony between people and nature.





“ Sustainability is not merely a practice
but a paradigm of thought.
At Visthar, knowledge evolves into conscious action.”

