Landscaping Practices to Minimize Water Usage

JSS Academy of Higher Education & Research (JSS AHER) actively demonstrates its commitment to environmental sustainability by adopting innovative landscaping practices that minimize water usage. Through its **Green Campus Initiative**, the institution has strategically incorporated drought-tolerant plants, water-efficient irrigation systems, and sustainable landscaping techniques. These efforts align with **United Nations Sustainable Development Goal 6 (SDG 6)** – Clean Water and Sanitation, while also enhancing the campus environment.

JSS Academy of Higher Education and Research (JSS AHER), through its Green Campus Initiative, has aligned with the United Nations' Sustainable Development Goals (SDGs) by adopting water conservation strategies that promote environmental sustainability. A key aspect of this initiative is the design of water-efficient, low-maintenance landscapes and the implementation of advanced water-saving technologies, particularly for gardening and campus landscaping. The institution has carefully planned its landscape to include drought-resistant plants and native species that require minimal watering. This not only reduces the overall water demand but also helps maintain the natural ecosystem of the area. JSS AHER's landscaping strategy prioritizes sustainability by creating green spaces that thrive with minimal intervention.

In addition, JSSAHER has installed water-saving irrigation systems, such as drip irrigation and sprinklers with timed controllers, to ensure efficient use of water in its gardens and lawns. These technologies minimize water wastage by delivering precise amounts of water directly to plant roots, reducing evaporation and runoff. By incorporating these water-efficient landscapes and technologies, JSS AHER demonstrates its commitment to water conservation. These efforts not only support the institution's environmental objectives but also contribute to the broader global goals of sustainability and resource management.

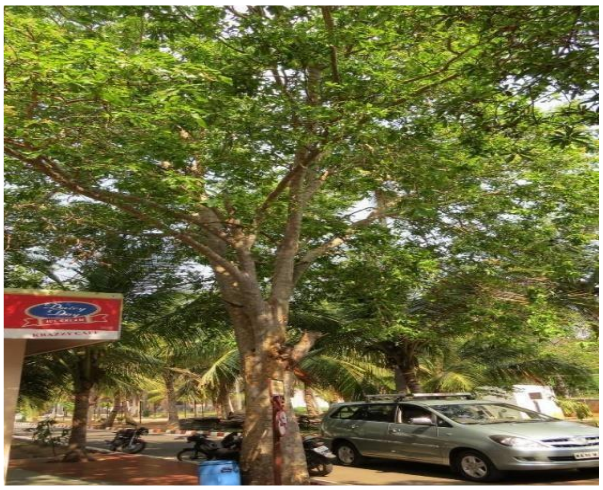
JSSAHER Campus has varieties of drought – tolerant plants/ trees which are grown at multiple places in our garden area.

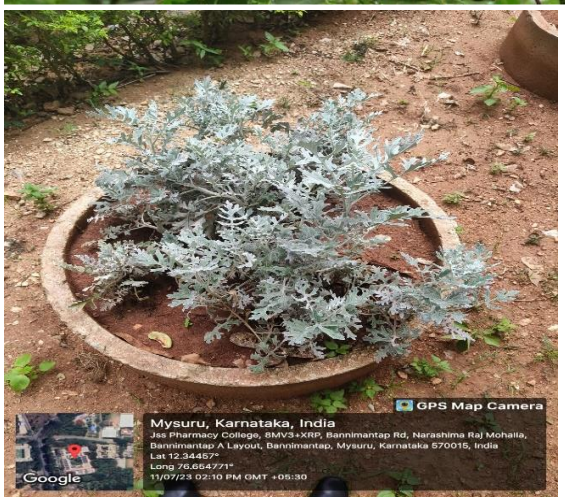
Water-Conscious Landscaping at JSS AHER

1. Incorporation of Drought-Tolerant Plants

JSS AHER has cultivated a diverse range of drought-tolerant plant species across its campus to reduce water demand for landscaping. These plants are selected for their natural adaptability to arid conditions, requiring minimal irrigation.

- **Key Drought-Tolerant Plant Categories at JSS AHER:**
    1. **Succulents:** Aloe Vera, Agave, Sedum, Echeveria.
    2. **Xerophytic Shrubs:** Lavender, Rosemary, Oleander, Sage.
    3. **Native Grasses:** Fountain Grass, Blue Grama Grass, Buffalo Grass.
    4. **Drought-Tolerant Trees:** Olive Tree, Palo Verde, Mediterranean Cypress.
    5. **Groundcovers:** Ice Plant, Creeping Jenny, Thyme.
    6. **Perennials:** Yarrow, Blanket Flower, Coneflower.
    7. **Cacti:** Barrel Cactus, Saguaro Cactus, Prickly Pear.

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Few drought – tolerant plants at JSSAHER, Mysuru

S.No	Botanical Name	S.No	Botanical Name	S.No	Botanical Name
1	Achyranthes aspera	35	Cycas circinalis	69	Oreodoxa regia
2	Actinidia deliciosa	36	Cymbopogon citratus	70	Oxalis corniculata
3	Agave americana	37	Cynodon dactylon	71	Passiflora edulis
4	Aglaonema commutatum	38	Delonix regia	72	Peltophorum pterocarpum
5	Albizzia lebbeck	39	Digitalis purpurea	73	Phyllanthus acidus
6	Aloe vera	40	Duranta erecta	74	Phyllanthus amarus
7	Alstonia scholaris	41	Eugenia jambolana	75	Phyllanthus emblica
8	Anacardium occidentale	42	Euphorbia antiquorum	76	Piper betle
9	Annona squamosa	43	Euphorbia cotinifolia	77	Piper longum
10	Araucaria heterophylla	44	Feronia elephantum	78	Piper nigrum
11	Arenga saccharifera	45	Ficus carica	79	Pistia stratiotes
12	Artemisia annua	46	Ficus religiosa	80	Polyalthia longifolia
13	Artemisia nilgirica	47	Fragaria ananassa	81	Prosopis cineraria
14	Artocarpus heterophyllus	48	Gomphrena procumbens	82	Psidium guajava
15	Asclepias curassavica	49	Hibiscus rosa-sinensis	83	Rauwolfia serpentina
16	Asparagus racemosus	50	Holarrhena pubescens	84	Ricinus communis
17	Averrhoa carambola	51	Imperata cylindrica	85	Rosmarinus officinalis
18	Azadirachta indica	52	Iresine herbstii	86	Ruta graveolens
19	Bauhinia variegata	53	Ixora coccinea	87	Sansevieria trifasciata

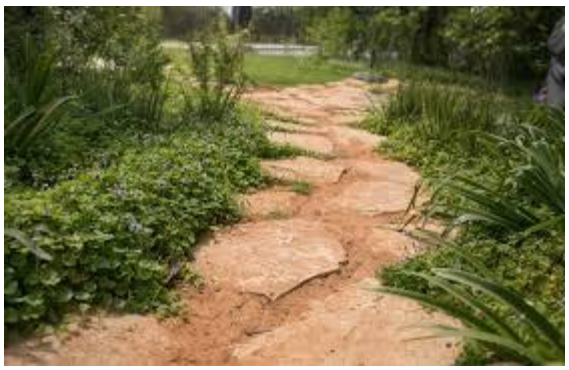
S.No	Botanical Name	S.No	Botanical Name	S.No	Botanical Name
20	Bougainvillea spectabilis	54	Lawsonia inermis	88	Santalum album
21	Bryophyllum pinnatum	55	Litchi chinensis	89	Saraca indica
22	Butea monosperma	56	Madhuca longifolia var. latifolia	90	Senegalia catechu
23	Calotropis procera	57	Magnolia champaca	91	Syzygium jambos
24	Chlorophytum comosum	58	Mangifera indica	92	Tabernaemontana divaricata
25	Cineraria maritima	59	Manilkara zapota	93	Tamarindus indica
26	Cissus quadrangularis	60	Mentha piperita	94	Tecoma stans
27	Citrus limetta	61	Morinda tinctoria	95	Terminalia arjuna
28	Citrus limon	62	Murraya exotica	96	Thespesia populnea
29	Citrus paradisi	63	Murraya koenigii	97	Thymus vulgaris
30	Clitoria ternatea	64	Mussaenda philippica ‘Queen Sirikit’	98	Tinospora cordifolia
31	Cocos nucifera	65	Myristica fragrans	99	Vetiveria zizanioides
32	Coffea arabica	66	Nerium indicum	100	Vinca rosea
33	Coleus amboinicus	67	Nyctanthes arbor-tristis	101	Vitex negundo
34	Costus speciosus	68	Ocimum sanctum		

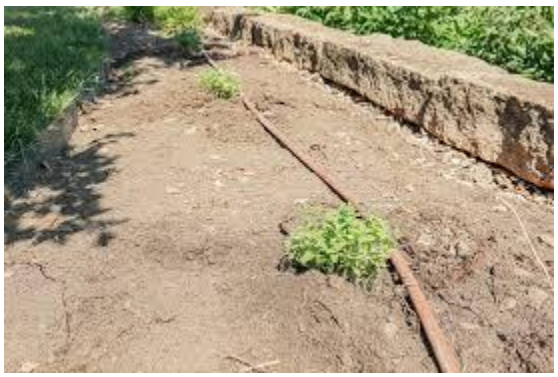
The incorporation of drought-tolerant plants in the garden at JSS Academy of Higher Education and Research (JSSAHER) stands as a strategic and sustainable landscaping initiative aimed at minimizing water usage. This conscientious choice of flora not only enhances the aesthetics of the campus but also aligns with the institution's commitment to water conservation and environmental responsibility

2. Advanced Water-Saving Irrigation Systems

To optimize water distribution and reduce wastage, JSS AHER employs modern irrigation technologies:

- **Drip Irrigation:** Delivers water directly to plant roots, minimizing evaporation and runoff.
- **Smart Watering Systems:** Timed sprinklers ensure precise watering schedules based on plant needs.
- **Mulching Practices:** Organic mulch is used to retain soil moisture and reduce evaporation.



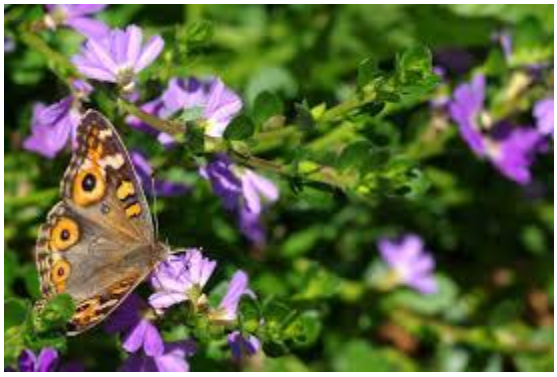


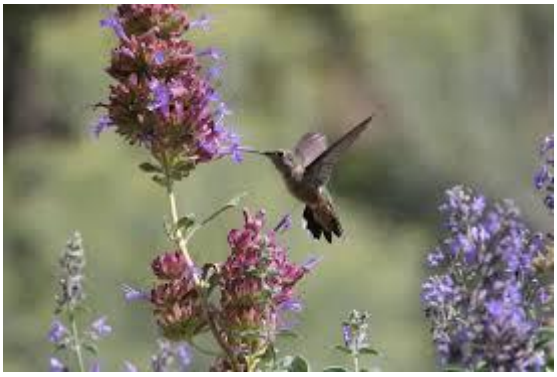
3. Landscaping Design for Water Conservation

- **Selection of Native and Climate-Resilient Species:** JSS AHER prioritizes indigenous plant species that thrive in local conditions, reducing the need for excessive watering or maintenance.
- **Eco-Friendly Landscape Planning:** Open spaces, lawns, and gardens are designed to balance greenery with sustainability, creating visually appealing yet low-maintenance landscapes.

Environmental Benefits of Drought-Tolerant Landscaping

1. **Water Conservation:**
    - Low irrigation requirements significantly reduce campus-wide water consumption.
    - Treated water from Sewage Treatment Plants (STP) is reused for landscaping purposes, further reducing reliance on freshwater resources.
2. **Climate Resilience:**
    - Drought-tolerant plants are well-adapted to the local environment, requiring minimal intervention to survive high temperatures and low humidity.
3. **Biodiversity Promotion:**
    - These plants attract local wildlife, including birds, butterflies, and beneficial insects, enhancing campus biodiversity.
4. **Educational Opportunities:**
    - The campus serves as a living laboratory, offering hands-on learning experiences for students in sustainable landscaping and biodiversity conservation.





Preservation of Endangered Drought-Resistant Plants

JSS AHER's landscaping efforts also include the preservation of endangered plant species with natural drought resistance. This initiative serves multiple purposes:

- **Conservation:** Protects species threatened in their natural habitats.
- **Research:** Provides opportunities for ecological and genetic studies.
- **Awareness:** Encourages the campus community to actively participate in biodiversity conservation.

Sustainability Initiatives Supporting Landscaping Practices

1. **Rainwater Harvesting Systems:**
    - Rainwater is collected in recharge pits and ponds for use in irrigation, reducing dependency on municipal water supplies.
2. **STP Treated Water Usage:**
    - Treated water from the campus's STP is used for non-potable purposes, including gardening and maintaining sports grounds.
3. **Regular Maintenance:**
    - Routine inspections of irrigation systems, pipelines, and landscaped areas ensure optimal water use and prevent wastage.

Community Engagement and Awareness

JSS AHER actively involves students and staff in its landscaping efforts:

- **Social Media Campaigns:** Sharing insights, progress, and best practices on sustainable landscaping to inspire broader action.
- **Educational Workshops:** Engaging the campus community in hands-on activities to learn about drought-resistant plants and water-efficient practices.

Impact and Outcomes

1. **Reduction in Water Usage:**
    - Landscaping practices have significantly decreased irrigation needs, conserving thousands of liters of water annually.
2. **Enhanced Campus Environment:**
    - The use of drought-tolerant plants creates vibrant and low-maintenance green spaces.
3. **Alignment with SDG Goals:**
    - These efforts contribute directly to SDG 6 (Clean Water and Sanitation) and SDG 15 (Life on Land).

Conclusion

JSS AHER's commitment to sustainable landscaping reflects its dedication to conserving water resources while fostering a greener and more biodiverse campus. By incorporating drought-tolerant plants, advanced irrigation systems, and eco-conscious practices, the institution sets an exemplary standard for water-efficient landscaping in higher education.

These efforts not only enhance the aesthetic appeal of the campus but also underscore JSS AHER's role as a leader in environmental responsibility and resource management.